Textile Industries

COTTON
Textile Industries

TEXTILE VISIONEERING

A slasher room like this? — Why not?

TEXTILE PLANTS

SYNTHETIC TEXTILE PLANTS

FINISHING PLANTS

POWER and FILTRATION PLANTS

AIR CONDITIONING

MODERNIZATION STUDIES

PROCESS MACHINERY and EQUIPMENT LAYOUTS

In other industries, when old traditions have been forgotten, modern processing and streamlining have cut costs, speeded production and stepped up quality.

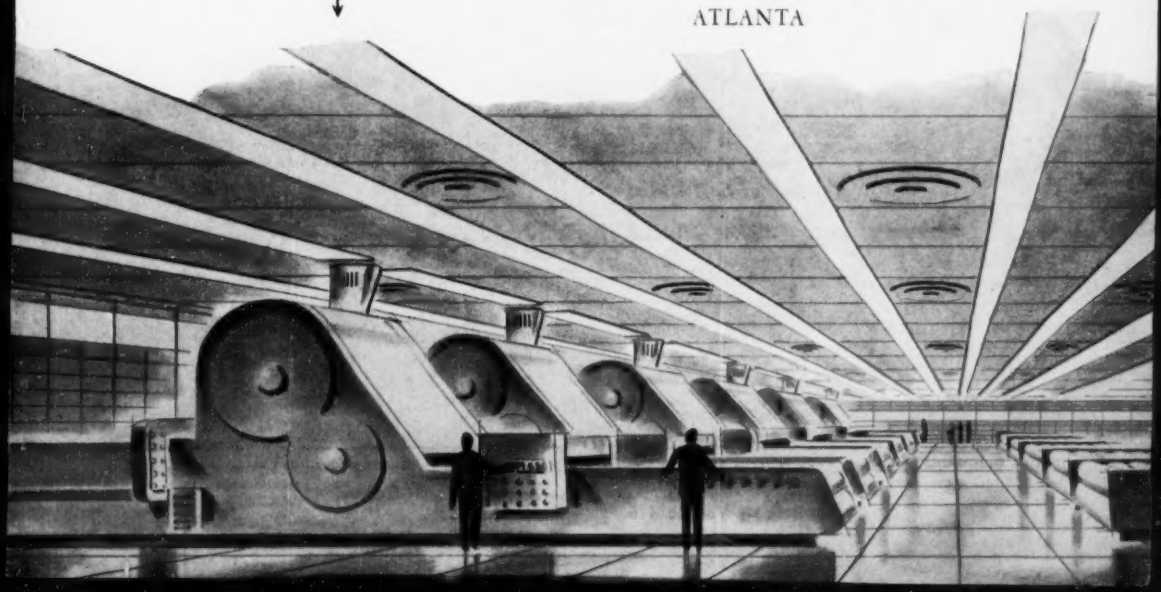
It works in textiles, too. Several of our recent projects now in operation have proved that streamlined designs and operations are the answer to rising costs. Other advanced designs now on our drawing boards will soon be helping other farsighted mill men solve present production problems and, better still, forestall future trouble.

Textile visioneering, practically applied to a new mill or a modernization program, may be your answer to growing costs and reduced profits.

ROBERT AND COMPANY ASSOCIATES

Architects and Engineers

ATLANTA



COMMERCIAL FACTORS CORPORATION

TWO PARK AVENUE, NEW YORK, 16

EUGENE G. LYNCH, 80 FEDERAL STREET, BOSTON 10, MASS.
T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

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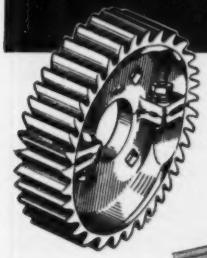
Volume 115 Number 9

For the Best - Buy DRAPER REPAIR PARTS

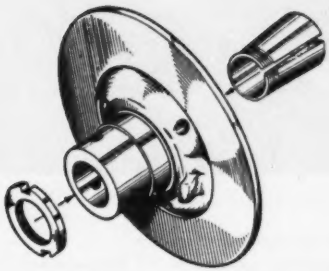


1 Proper Design!

Draper repair parts are designed by the same skilled engineers who designed your looms. It is Draper "know-how" that results in proper design.

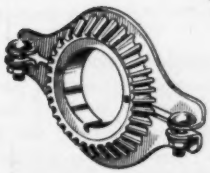
2 Precision-Made!

Machined in the same jigs and fixtures by the most modern machine tools, Draper repair parts are precision-made to be uniform.



Good Delivery!

3 In spite of an unprecedented number of orders, Draper repair parts are being shipped to the mills and to our warehouses in a fast-flowing stream. Improved practices and increased production facilities allowed us to ship over 20% more repair parts in each month of this year from January to June than in the same months in 1950. Our deliveries have even improved since then.

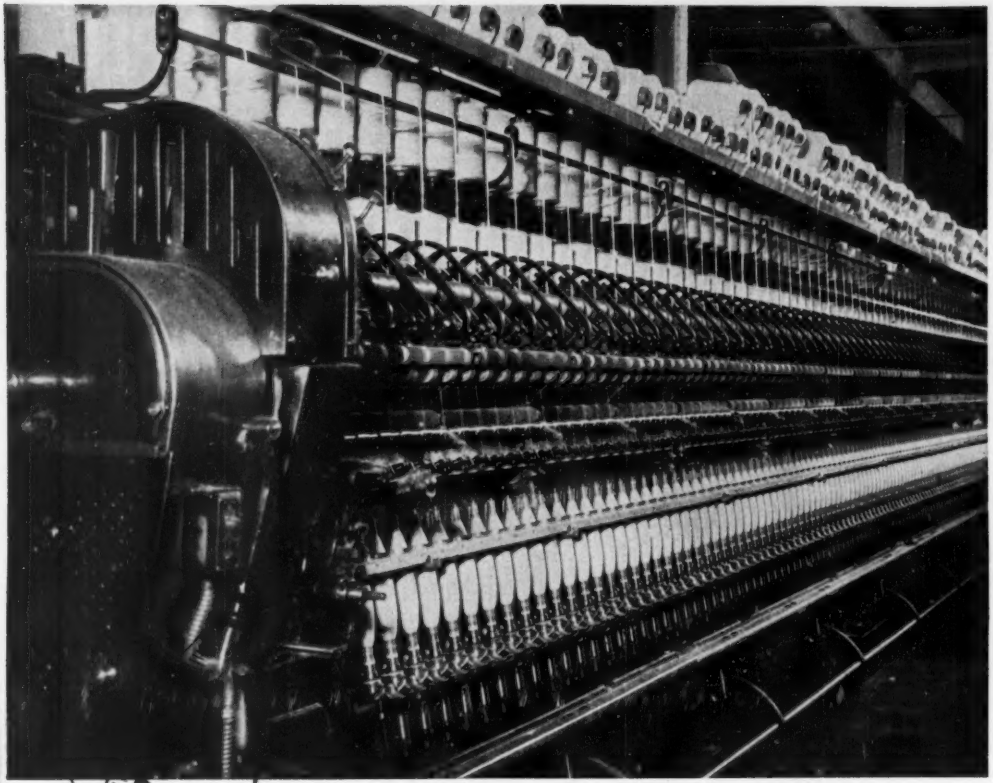


Look for the Diamond D
It is your guarantee of the Best in loom repair parts.

D

DRAPER CORPORATION

ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S. C.



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. . . to keep production UP, costs DOWN

Texaco Spindura Oil rates extra high in resistance to oxidation, thickening and gumming. Spindles can thus carry even heavy packages at full speed without vibration, hunting or lagging . . . with fewer ends down. Your output of smoother, cleaner yarn is bound to be high, your maintenance costs low.

Two other savings: You'll reduce power consumption because *Texaco Spindura Oil* eliminates "drag" in starting and running . . . and the fact that *Texaco Spindura Oil* does not "fog" prevents both yarn stain and oil waste.

Texaco Spindura Oils meet all spindle manufacturers' requirements for effective lubrication of spinning, throwing, spooling and twisting spindles. There are suitable viscosities for every need.

Let a Texaco Lubrication Engineer help you gain lubrication economies throughout your mill. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

ABC

Textile Industries

COTTON

Volume 115, Number 9
September, 1951

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"Textile Industries" has the largest circulation among the mills of the United States and Canada of any textile publication.

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is the

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Only with B. F. Goodrich grommet belts can you make these savings!

Save 3 ways! Investigate today! Write or mail coupon

You save belt costs because belts last longer, save production costs because machines keep running with fewer interruptions, save maintenance costs because they need less attention.

Patented grommet belts by B. F. Goodrich represent the only basic change since invention of the V belt. Belts last 20 to 50 per cent longer, depending on service. (The more severe the service, the greater the increase over ordinary belts.) Grommet belts have more rubber; they're more flexible, give better grip, less slip.

What is a grommet?

A grommet is like a giant cable except that it's *endless*—a cord loop built up by winding heavy cord on itself. There is no overlapping cord *section* as in all ordinary belts. Most belt failures occur in these sections where cords overlap!

All cords put to work

Each of the two grommets and every part of a grommet carry their share of the load. In ordinary belts under high tension the center cords "dish" because tension is greater near the driving faces. Dished cords are doing less work, not pulling their share. Grommet belts have no center cords, there is no dishing—therefore much more strength in proportion to cord volume—and less stretch. Grommet belts stretch, on an average, only about one-third as much as ordinary belts.

Better grip, less slip

Grommet belts have more rubber in relation to belt size. Without any stiff overlap, they're more flexible, grip pulleys better. Size for size, grommet belts give ⅓ more gripping power, pull heavier loads with a higher safety factor. Because there is less slip, there is also less surface wear.

Send for proof

Send the coupon for a set of reports telling users' experiences and showing actual installations where grommet belts outlasted all others. Some typical cases:

"... within a few days ordinary belts had stretched ... After six months of 24-hour-a-day service BFG grommet belts haven't stretched at all ..."

"Ordinary belts lasted only 5 or 6 weeks ... B. F. Goodrich grommet belts are in their sixth month of service ..."

"Previous belts suffered from shock loads, wore out fast ... BFG grommet belts have been in service 2 years with no shut-downs..."

There are hundreds of cases like these.

They cost no more

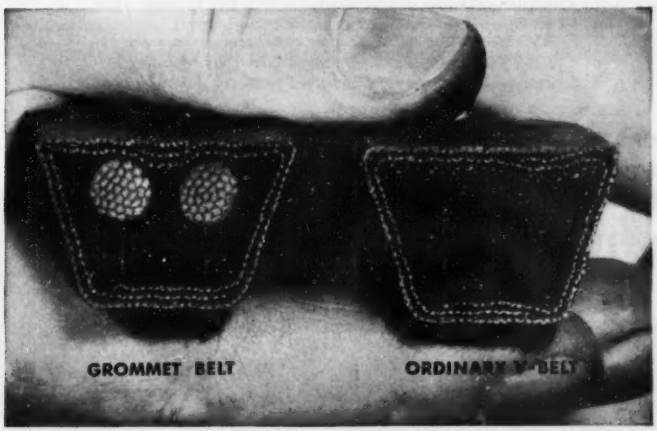
BFG grommet belts cost not one cent more than others. The savings they make for you are clear profit. They are made in C, D and E sections. They are patented by B. F. Goodrich. No other V belt is a grommet belt (U. S. Patent No. 2,233,294).

Write, send the coupon or see your B. F. Goodrich distributor. (He will show you his "X-ray" belt that shows the grommet construction clearly.)

Grommet V Belts BY

B.F.Goodrich

FIRST IN RUBBER



The B. F. Goodrich Company
Dept. TI-9
Akron, Ohio

☐ Send set of reports telling users' experiences and showing actual installations proving that B. F. Goodrich grommet belts outlast all others.

☐ Have distributor show me the "X-ray" belt that shows how B. F. Goodrich grommet belts are made.

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Firm Name_____

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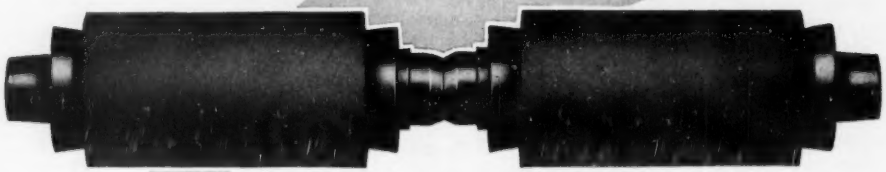
WHICH S-L-T TOP ROLL COST-CUTTING FEATURE WOULD HELP YOUR MILL MOST?

- NO WEEKLY OILING
- NO SPOILED YARN
- NO ROLL PICKING
- NO WASTED OIL

SACO-LOWELL-TORRINGTON

S-L-T NEEDLE BEARING TOP ROLL

FOR ROVING AND SPINNING



Mills using **S-L-T Top Rolls** may not all agree on the one money-and-time saving feature that benefits them most, but they all do agree that these modern, pre-lubricated top rolls bring them important over-all savings.

S-L-T Top Rolls eliminate weekly oiling . . . lubrication is needed only at overhaul periods. They do away with costly yarn spoilage from black oil. Because of inherent cleanliness, roll picking is practically eliminated. No oil is wasted. Wear due to motion is non-existent, because of the specially designed Needle Bearings. These are just a few of the 18 advantages S-L-T Top Rolls offer to mills that are seeking *better yarns at lower cost.*

Write for Folder No. 2. It gives complete data on every S-L-T feature. Or consult our nearest Sales Office regarding an engineering survey of your top roll problems.

S-L-T- TOP ROLLS are manufactured by THE TORRINGTON COMPANY, Torrington, Conn., and are available exclusively through

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NASHVILLE, TENNESSEE

for over a year in successful operation... at the ABBOT WORSTED MILLS

The first production unit in Massachusetts of the new SACO-LOWELL WORSTED SYSTEM has been installed and maintained on a production basis at the Abbot Worsted Mills in Lowell for over a year. The unit manufactures soft knitting yarns in counts ranging from 14s to 40s.

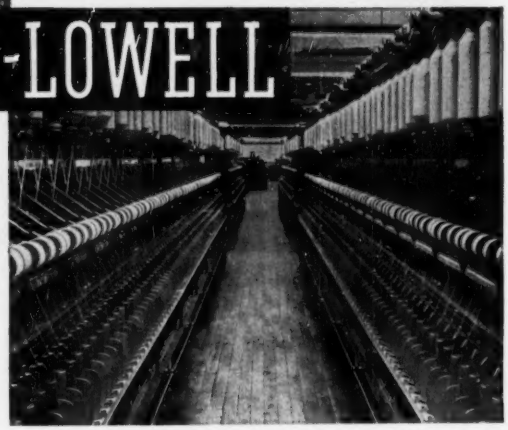
This modern worsted spinning operation, with **one preparatory process** between sliver and yarn creates savings in capital investment, floor space and operating costs which no far-seeing management can afford to overlook.

SACO-LOWELL

(Upper Left) The wool top is processed through two operations of Warner-Swasey pin drafting before being creeled into the roving frames.

(Lower Left) A close-up illustration of the Saco-Lowell roving frame equipped with the FS-4 drafting system designed specifically to accommodate long staple fibers.

(Lower Right) Looking down an alley between the new Saco-Lowell spinning frames equipped with the SS-4 long fiber drafting element. Note the general cleanliness of the room which, together with the use of these completely modern frames, assures a high production of fine quality yarn.



A COMPLETE TECHNICAL DESCRIPTION of this new system is given in a 16-page brochure. You are invited to write for the "Saco-Lowell System for WORSTED SPINNING."

SACO-LOWELL

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with Goodyear's Line of Quality Belts

GOODYEAR INDUSTRIAL RUBBER PRODUCTS
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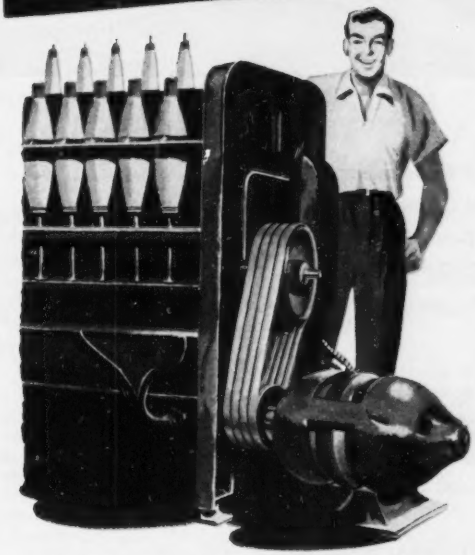
TEXTILE SPECIAL V-BELT CONSTRUCTION
to handle uneven loads, small pulleys, short centers, possible misalignment
A Multiple-ply bias-cut fabric envelope, minimizes surface wear
B Four-ply cord fabric strength member for elasticity and greater strength
C Gum cushion in compression section



FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING, RUBBER-COVERED ROLLS *built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

FOR every V-drive in your mill, there's ONE V-belt that's right—combining materials and design to handle drive requirements longest, and at the lowest cost in the long run. And the G.T.M. — Goodyear Technical Man — has developed the most complete line of V-belt constructions, each tailor-made to fit the job.

Ask your nearest Goodyear distributor — or the G.T.M. — about:

TEXTILE SPECIAL V-BELTS developed to cope with unavoidable misalignment of sheaves and other special textile drive problems.

COMPASS CONSTRUCTION E-C CORD for high speed drives with short centers and small pulleys.

MULTIPLE-PLY E-C CORD BELTS for larger, normal speed drives including those with heavy shock loads and severe starting conditions.

COMPASS-V-STEEL BELTS for maximum load capacity, high heat resistance, low power consumption and minimum space. Speeds from 10 to 10,000 FPM. In sizes up to 120".

STEEL CABLE V-BELTS for longer drives, belt length 120" and over, and heavy HP loads.

HY-T BELTS built with synthetic fibers — have nylon's strength without its stretch on severest heavy-duty drives; oil-resistant construction at no extra cost.

OPEN-END V-BELTING for line shaft drives, no take-up drives and dismantle-to-install drives; built to operate with and really hold metal fasteners.

FRACTIONAL HP BELTS for miscellaneous light machinery drives employing single belts.

One of these constructions will be the right answer to *your* V-drive problem — will give longer, more economical V-belt service in your mill. So ask the G.T.M. for details, or write:
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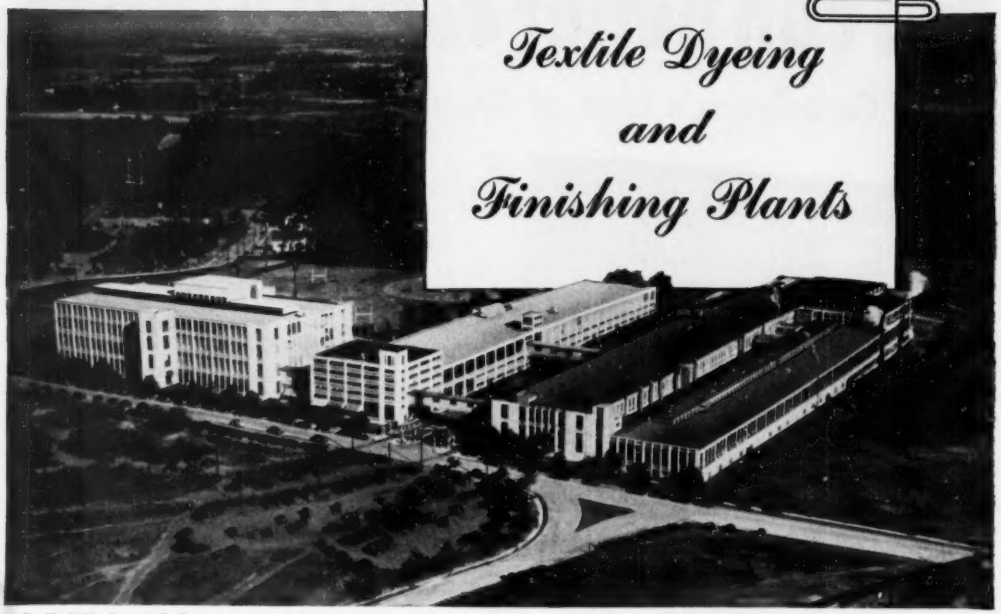

Pacific Mills, Lyman, S. C.

Number of Engagements	250
Number of Clients	over 100
Complete New Plants	25
Major Additions	20
Reports, Appraisals, Studies and Minor Additions	over 200

Locations:

In nearly every state east of the Mississippi, Canada, Mexico and South America.

Cost of New Plants and Major Additions..over $30,000,000

Some outstanding textile dyeing and finishing plants for clients of Lockwood Greene:

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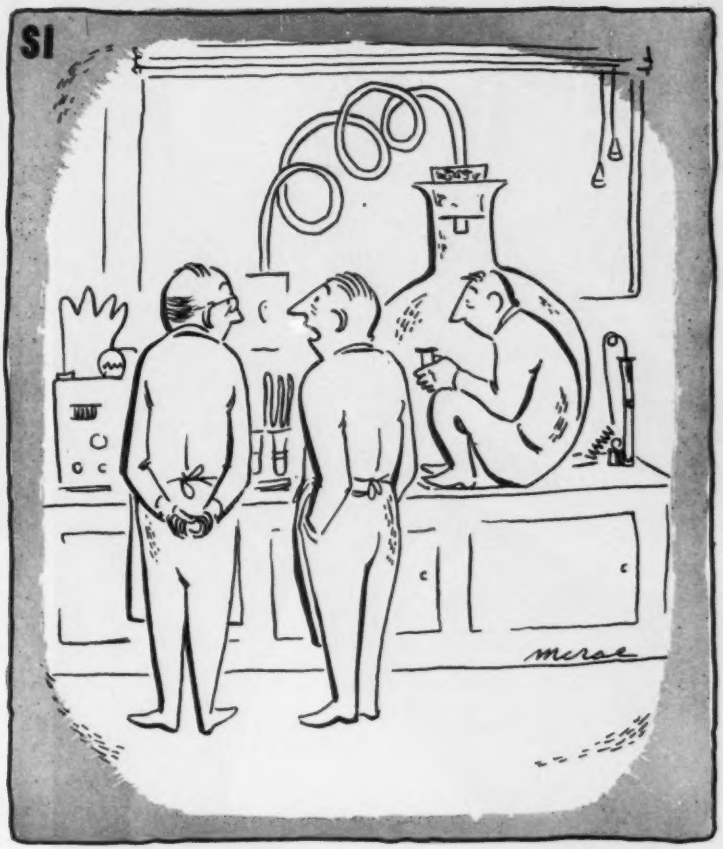

"One thing about Si, he really puts himself into his work."

SEYCO Products

WARP SIZING
- Softeners
- Binders
- Penetrants
- Ty-In Penetrants
- Shuttle Dressing

WET PROCESSING CHEMICALS AND AUXILIARIES
- Dye Assistants
- Penetrants
- Rewetting Agents
- Sanforized Fabric Oils
- Detergents
- Scouring Agents
- Softeners

NIAGARA TWIST-SETTER
- Yarn Conditioning Penetrants

It isn't anything at all unusual to see the SEYCO MAN in the slasher room or dye house with his sleeves rolled up and sweat on his brow. Of course you can handle most of your own problems . . . but the SEYCO MAN is always ready to pitch in and help whenever you would like to use his technical know-how.

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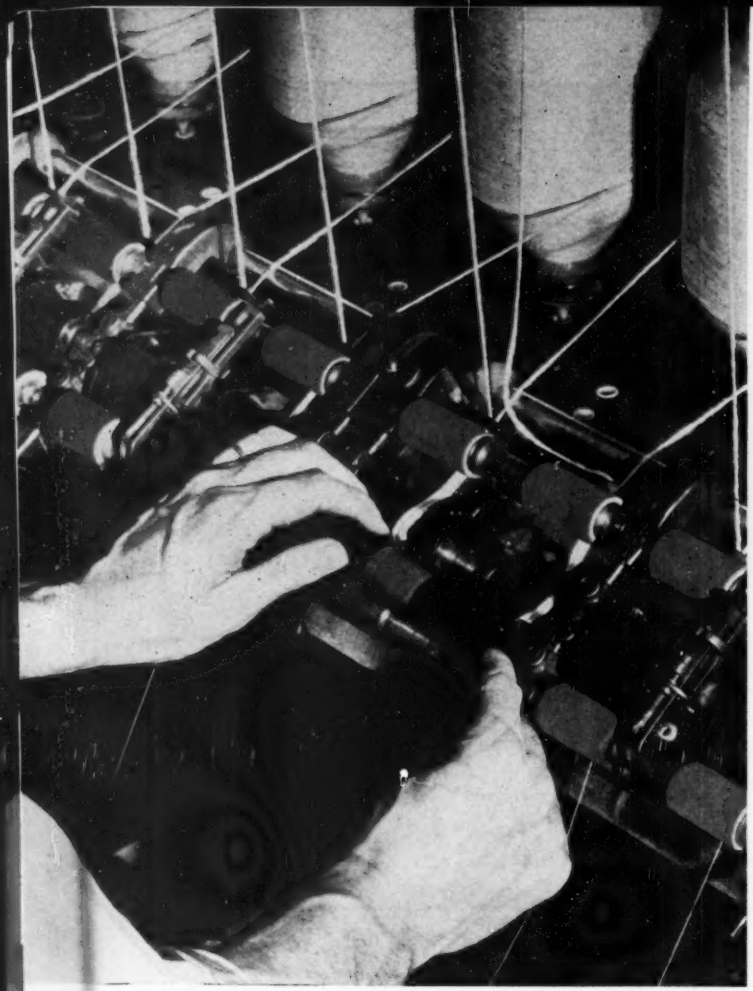
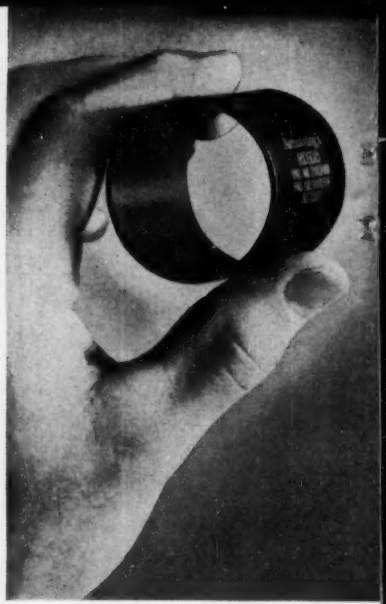
SEYCO

PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
• TWIST SETTER MACHINES •

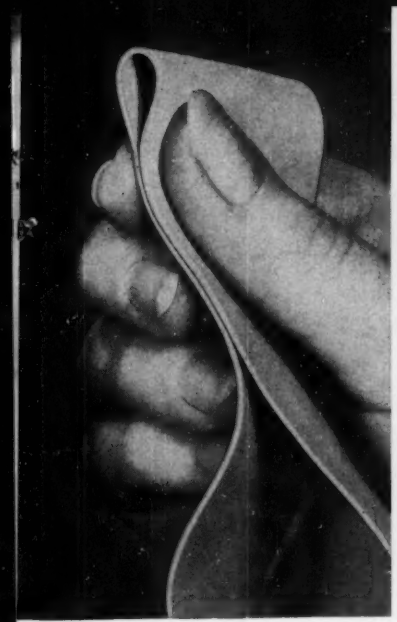


LONGER LIFE: Accotex Aprons reduce replacement costs. On single apron and most double apron frames they will give six to eight years and more of continuous service in two-shift operation. Long life is uniform from apron to apron, too.



NO SEAMS: Look at any Armstrong's Accotex Apron, inside and out. You'll see it has no seams to crack or break, no seams to cause irregularities in the yarn. Barring accidental damage, Accotex Aprons give years of trouble-free service.

OIL RESISTANT: Accotex Aprons don't absorb oil, or soften from exposure to oils, dyes, and commonly used textile solvents. They won't sweat under any mill condition. Consequently, they have no tendency to pick up lint.

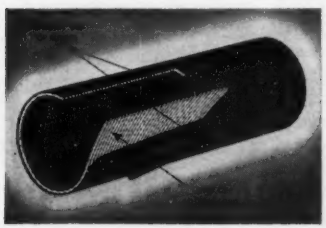


SUPER FLEXIBLE: NO-750 Accotex Apron is especially made for single apron frames. Very flexible, it hugs the nose bar tightly, insuring smooth slip-roll action.

SATIN FINISH: Rub your fingers across the surface of an Armstrong's Accotex Apron. You'll discover it feels smooth as satin. Each Accotex Apron you buy is ground to the exact thickness you specify and given a patented treatment that provides a smooth, clean-running, and scuff-resistant surface.

Get years of continuous service from this performance-proved apron

The one positive proof of durability is found in actual service—and Armstrong's Accotex® Aprons have *years* of that kind of proof behind them. Reports of 7 and 8 years of service on two-shift operation now are coming in from an increasing number of mills. That's real proof that the Accotex Apron that helps you get the most out of your long-draft equipment is also the apron that gives you the most for your apron dollar.



Why? The answer is found in the patented construction of this remarkable apron. Accotex Aprons are made in three special-function layers. The inside layer is a seamless tube of synthetic rubber especially formulated to resist the abrasion of running over the nose bar.

The outer layer—also seamless—is made of a synthetic rubber that will stay smooth and resilient throughout years of continuous spinning. Between these seamless layers are strong cords that absolutely prevent stretching or curled edges.

Vulcanized together, these three layers make an efficient and long-lasting apron. For example, in a Georgia mill a set of Armstrong's NO-700 Accotex Aprons ran two shifts continuously for eight years!

If you are not getting this kind of service from the aprons now on your frames, see your Armstrong representative. He can show you the Accotex Apron best suited to your frames. Call him today or write Armstrong Cork Company, Textile Products Department, 3609 Arch Street, Lancaster, Penna. Available for sale in export markets.

ARMSTRONG'S ACCOTEX APRONS

one of Armstrong's complete line of textile mill supplies

Q: *What has multiplied Mr. X so many times over?*

A: COMPETITION

. . . which always begins in the Weaveroom

Time was, and not so long ago, when the average male clothing customer had one suit. He was wealthy if he was a "two-suiter."

And what has made him what he is today . . . a multiple-customer, and the best-dressed average citizen of any country in the world? *Competition* . . . which has brought the cost of a well-rounded wardrobe down within his reach, *and kept it there.* And that means looms that weave fabrics of such high quality, at such low cost, that year by year he gets more and more for his money.

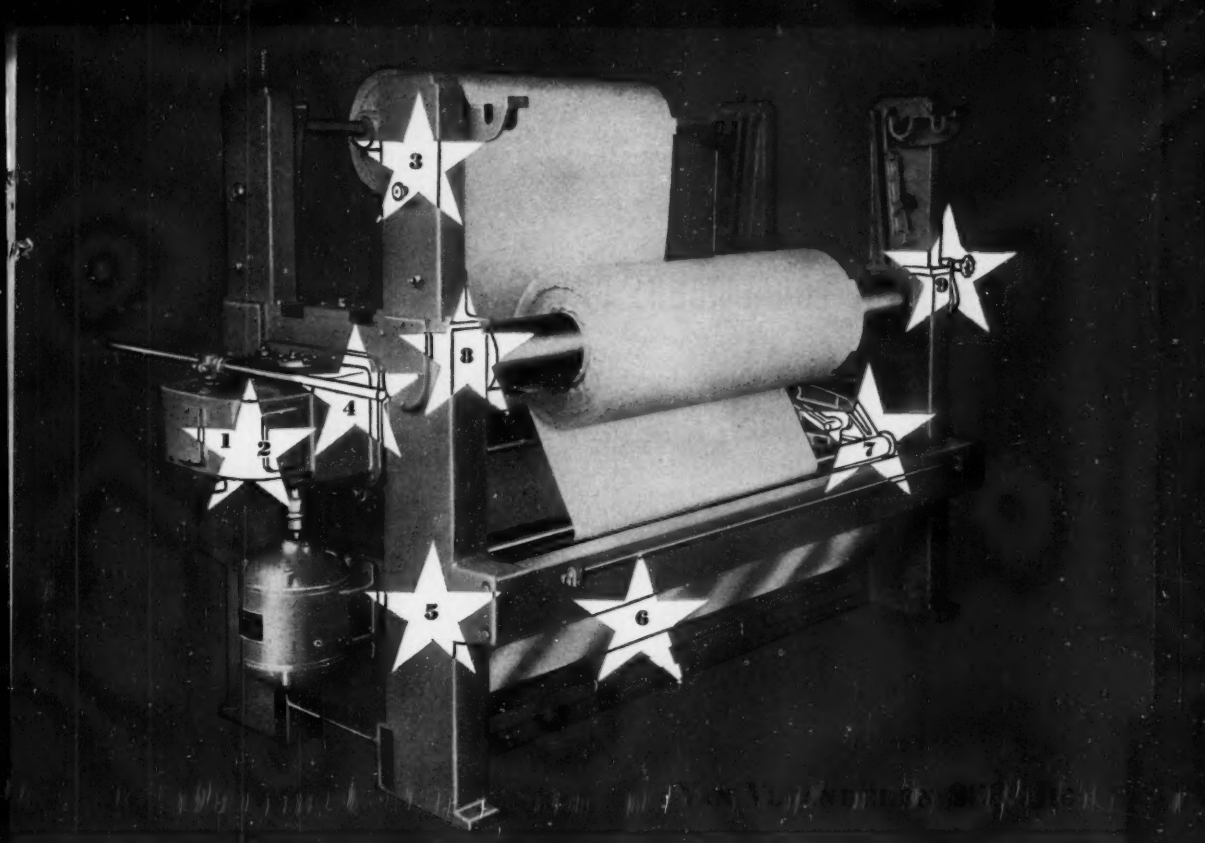
That's why mills that are successfully competitive in today's highly fashion-fickle markets are those with thoroughly modernized weaverooms. And in these weaverooms are versatile, convertible C&K Call Box Looms, maintained at top operating efficiency with Certified C&K Loom Parts. *Now take note of this:* In the unmatched versatility of C&K Looms, if you have not explored it thoroughly, you may literally find "the acre of diamonds in your own back yard."

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R.I.



STAR PERFORMER

The Van Vlaanderen 888 Jig in one short year has developed into the star performer of many dye houses. Here's why it's in the limelight.

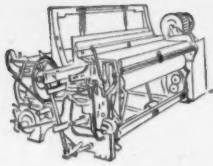
- New compact and silent worm type main drive operating in oil.
- Multiple disk friction clutches (dry type) eliminate drag entirely.
- Multiple roller chain drives completely housed and running in oil reduce maintenance and assure clean operation.
- Entire drive system controlled by shifter lever operated from either end.
- Heavy vibration free cast iron frames and separators.
- Stainless steel tank with new overflow arranged sideways.
- Oscillating expander unit with stainless steel curved bars and immersion rolls mounted on special stainless steel roller bearings.
- Rubber covered jig rolls mounted on anti-friction bearings.
- New malleable iron brakes with tension indicator permit quick and accurate control.

VAN VLAANDEREN MACHINE COMPANY

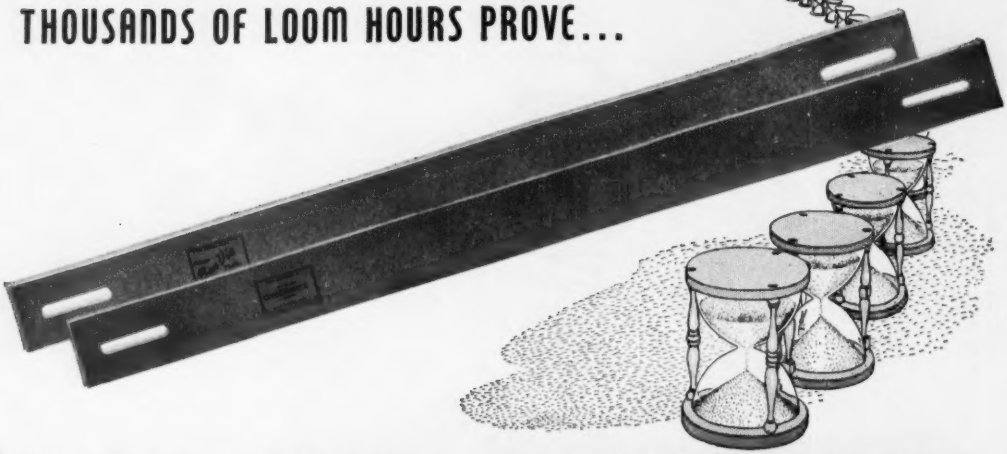
You are invited to see this machine.

370 Straight Street, Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics



THOUSANDS OF LOOM HOURS PROVE...



CHECK STRAP PERFORMANCE

THE TEST OF PERFORMANCE IS IN YOUR MILL

Through literally thousands of tested hours of operation in many different mills, under all kinds of conditions, CHECKMATE and BON VIE check straps have been PROVEN SUPERIOR. Superiority which results in longer check strap life, more consistent, efficient loom operations and better quality production. The reason for CHECKMATE and BON VIE PROVEN SUPERIORITY is simple:

The leather used is specifically selected, tested for substance by detailed physical and chemical analysis of every lot of leather, and proven on the job. It is the finest quality leather of its kind produced anywhere in the world today.

"Southern" check straps have been proven in hundreds of mills. We can prove them in yours.

SOUTHERN Belting COMPANY

236 FORSYTH STREET, S. W. ATLANTA 2, GEORGIA

THE "SOUTHERN WAY" IS THE MODERN WAY

COLOR
SELLS
TEXTILES
Quality
KEEPS THEM SOLD
Irresistible as a smile of welcome, COLOR like this befriends the buyer – and tells its own story of QUALITY. Manufacturers take a long step toward satisfactory sales when they specify Franklin Process Fast Color Yarns.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
Providence • Philadelphia • Greenville • Chattanooga
New York Representative — 40 Worth St.

Superior light and wet fastness

for **NYLON**

DU PONT "CAPRACYL"* neutral dyeing colors—designed specifically for nylon—give both filament and staple nylon decidedly superior light and wet fastness. And they can be applied in the same short time cycle as acid dyes.

The "CAPRACYL" dyes—such as Orange R—are especially recommended for dyeing nylon staple in stock, top or tow form. The dyed staple can then be converted into those fabrics requiring superior light and wet fastness—such as beachwear, outerwear, infants' wear, shirtings, upholstery materials, etc.

"CAPRACYL" dyes are also suitable for dyeing wool, giving similar fastness properties.

For information on these new "CAPRACYL" dyes . . . or for help on any coloring problems . . . consult our Technical Staff. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

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DU PONT
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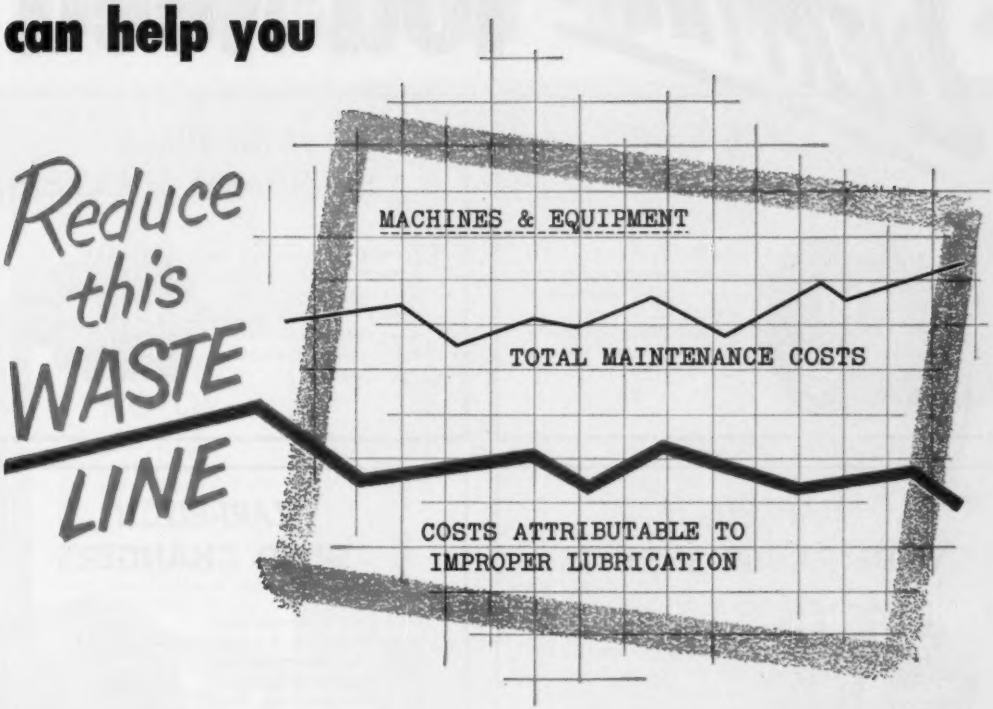
Du Pont Dyestuffs

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Gulf Periodic Consultation Service can help you



Here's an effective way to slim down heavy maintenance budgets—adopt Gulf Periodic Consultation Service. From this single source you can get practical help on any problem that involves a petroleum product—lubricants, fuels, solvents, rust preventives, special process oils, waxes.

Gulf Periodic Consultation Service makes available to you the regular counsel of one or more trained engineers who have years of experience with every type of textile process and equipment, and technologists who are skilled in every phase of petroleum science.

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FIFTY YEARS OF SERVICE
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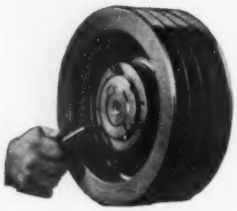
PETROLEUM AND ITS PRODUCTS

EVERYTHING You Need

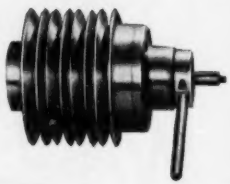
MAGIC-GRIP SHEAVES



Fastest mounting sheave you can buy. Semi-steel sheave with interchangeable tapered split bushing. Aligns easily . . . cannot shake loose. Available as companion sheave for wide range belts. All sizes in stock.

VARI-PITCH STANDARD SHEAVES

Speed range up to 28% on drives of one to 300 horsepower, using A, B, C, D, or E, belts. Two to 10 grooves. These sheaves are available in motion control or stationary control types.

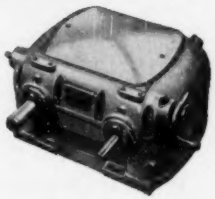


VARI-PITCH WIDE RANGE SHEAVES

Offers stepless speed control... one to 40 hp. Speed range up to 2 to 1. Made in stationary and motion control types. 1-4 grooves, Q or R belts.

VARI-PITCH SPEED CHANGERS

You get smooth, accurate speed control at the turn of a hand wheel. You operate your machines at exactly the right speed for highest production. Stepless speed range: 3¾ to 1. Capacity: 1½ to 75 hp.



Take Your Choice of Low Cost, Dependable, Easy-to-Regulate *Texrope* Variable Speed Drives

YOU CAN BE confident of getting the right drive from the *Texrope* line. And you are helped in your choice by experienced men who are trained to give you specialized service for textile needs. They have the added skill that comes from having more industrial V-belt installations than any other manufacturer.

As you may know, multiple V-belt drives were originated by Allis-Chalmers to meet the requirements of the textile industry.

Today you can get every V-belt drive component from the *Texrope* line: constant speed drives; standard and wide range *Vari-Pitch* drives; speed changers; motor bases; and new or replacement, long lasting *Super-7* V-belts. Allis-Chalmers, Milwaukee 1, Wis.

A-3482

Texrope, Vari-Pitch, Super-7, Magic-Grip, and Texslide are Allis-Chalmers trademarks.

in V-Belt Drives!

TEXSLIDE MOTOR BASES

This textile mill uses *Texslide* motor bases to permit compensation for belt stretch or changing center distances when adjustments of pitch diameter are made. Base consists of plate sliding in machined slots.

TEXROPE

SEND FOR FREE LITERATURE

Allis-Chalmers Loom Motor	51B7111
Texrope Drives	20B6051
Vari-Pitch Automatic Sheaves	20B7223
Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment	25B6150

COMPLETE SERVICE from power line to machine

Transformers

Motor Control

Motors

Texrope Drives

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

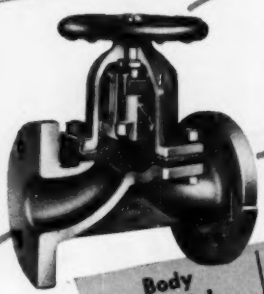
WHAT WOULD **YOU** SPECIFY . . .

Fluid	Concentration	Temp.	Type of Valve	Valve Material
1 Alum	11 lbs. per gallon	100° F		
2 Bleach Solution	11%	Room		
3 Rayon Spin Bath	—	115° F		
4 Dye	—	Room		
5 Hydrogen Peroxi.	35%	Room		
6 Hydrogen Peroxid.	90%	Room		

In several of these cases other body materials or diaphragms would serve as well. But the really important fact is the unmatched versatility of Grinnell-Saunders Diaphragm Valves in handling corrosive fluids, gases, compressed air, food and suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are problems.

Grinnell-Saunders Valve bodies are stocked in cast iron, malleable iron, stainless steel, bronze, and aluminum, with other materials available on special order. Valve bodies can be lined with lead, glass, natural rubber or neoprene. Diaphragms are available of natural rubber and a number of synthetics to suit particular service conditions.

The Grinnell-Saunders Valve Division will be pleased to submit recommendations upon receipt of complete information covering service conditions.



We supplied Grinnell-Saunders Diaphragm Valves with . . .

Body Material	Diaphragm Material
1 Rubber Lined	Neoprene
2 Rubber Lined	Natural Rubber
3 Rubber Lined	Neoprene
4 Stainless Steel	White Neoprene
5 Aluminum or St. Steel	Neoprene
6 Aluminum	KEL-F

Features of the Grinnell-Saunders Diaphragm Valve

- diaphragm absolutely isolates working parts from fluid
- diaphragm lifts high for streamlined flow in either direction
- diaphragm presses tight for positive closure
- body, lining and diaphragm materials to suit service
- simple maintenance—diaphragm easily replaced

GRINNELL

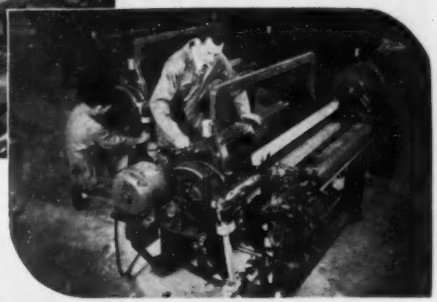
WHENEVER PIPING IS INVOLVED

Grinnell Company Inc., Providence, Rhode Island • Sales Offices and Warehouses in Principal Cities

pipe and tube fittings • welding fittings • engineered pipe hangers and supports • Thermolier unit heaters • valves Grinnell-Saunders diaphragm valves • pipe • prefabricated piping • plumbing and heating specialties • water works supplies industrial supplies • Grinnell automatic sprinkler fire protection systems • Amco humidification and cooling systems

LEFT: Plant layout permits assembly-line technique in Wilson loom rebuilding plant.

BELOW: Plant Superintendent checks every Wilson-rebuilt loom for performance before delivery.



a NEW IDEA in LOOM REBUILDING

Wilson Establishes Streamlined Loom Modernization Plant

Completed in the Spring of 1951, the new Emil V. Wilson Co. loom modernization plant at 1210 New Buncombe Rd. in Greenville, S. C., is unique in its field. The new plant, housed in a steel-and-concrete structure, contains 10,000 square feet of floor space, and has 1,500 loom parts bins. Using assembly-line technique, Wilson-trained mechanics can now rebuild, inspect, and ship 60 "like new" looms each week.

Assembly From Loom Frames Plus Rigid Performance Inspection

Looms to be Wilson-rebuilt are first stripped to the frames, and worn or obsolete parts are discarded. Rebuilding is done according to mills' specifications, from an adequate supply of perfect parts, and under the careful supervision of Wilson loom engineers. A system of gauges and checks is used to determine accurate assembly.

New-Loom Performance From Wilson-Rebuilt Looms

As a final test, each Wilson-rebuilt loom is started and run on the plant floor. Wilson's plant superintendent makes a final part-by-part inspection to see that every part ordered is in place. The smallest details are checked, to assure that Wilson-rebuilt looms will give new-loom performance.

Write, wire or telephone to learn how we can serve your needs in this new loom rebuilding plant.

EMIL V. WILSON CO., INC.

Loom modernization Specialists

1210 NEW BUNCOMBE RD., GREENVILLE, S. C.

The Textile Industry's only plant devoted entirely to rebuilding Looms.

Telephone 3-3643

Stay white KEEP FRESH...

thanks to Cellophane!

Sylvania Cellophane MS-1 in the 450 gauge makes a sturdy glove package that protects against soil and handling.

5 important properties that mean successful textile packaging:

★ Soil protection ★ Transparency
★ Durability ★ Low cost
★ Easy application

SYLVANIA® CELLOPHANE

Sylvania is always ready to help you make the most of your cellophane supply. Discuss this problem with your Sylvania representative or write us concerning your application. Address: Market Development, Dept. TI 9.

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Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa.

New Method

ROSS TOP DRYING SYSTEM

AIR DRYING WITHOUT DISTURBING THE FIBRES

at THE BARRE WOOL COMBING COMPANY, LTD., South Barre, Mass.

This ROSS straight-pass dryer introduces an entirely new principle for the drying of top. How to utilize air circulation without such material as fibres being blown about the place has always been a drying problem for the textile industry. Now, with this new ROSS Dryer, the slivers are not even disturbed although the volume of air circulated is exceptionally large. Spinning difficulties due to intertwining are eliminated, more even drying and better quality is assured. Another major achievement born of ROSS' long experience with drying problems.

ROSS RS SYSTEMS

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MANUFACTURERS OF AIR PROCESSING SYSTEMS

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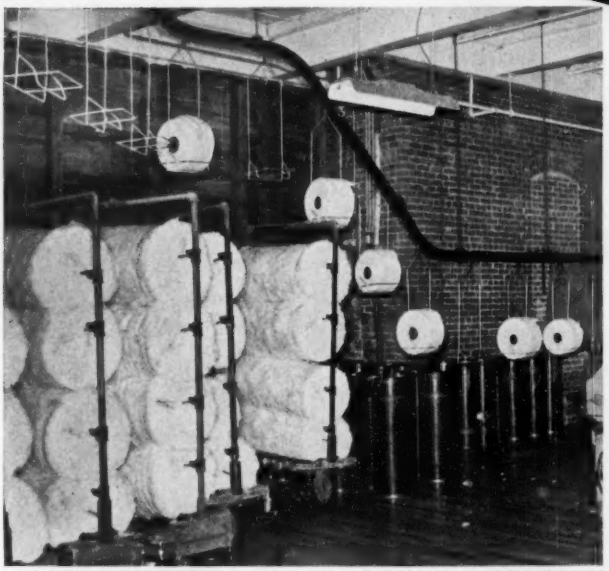
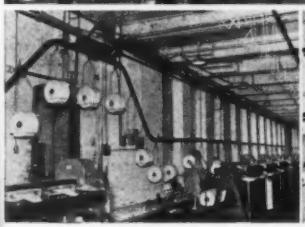
ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

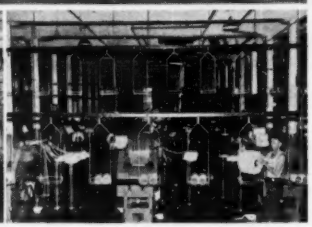
How to cut Textile Mill overhead!

Reduce Materials Handling to a Minimum with . . .

R-W "Zig-Zag" Continuous Power Conveyors

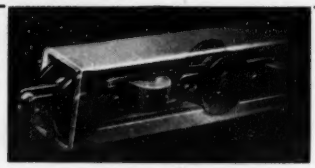






Find out right now how you can put your plant on a more productive, more efficient basis—and effect substantial savings in materials handling costs—with the revolutionary ZIG-ZAG Continuous Power Conveyor system designed and engineered by Richards-Wilcox. Write our nearest office today about an early consultation. No obligation on your part.

Many leading textile mills have discovered that the best way to reduce overhead, and cut materials handling costs to a minimum, is to install a Zig-Zag Conveyor system by Richards-Wilcox. ZIG-ZAG swiftly solves handling problems, and quickly puts production and processing lines on a more efficient basis—effects immediate savings in overhead, and releases skilled workers for *other* important jobs in your plant. As shown above, ZIG-ZAG keeps things moving, curving in and around . . . up and down . . . in the most confined or crowded areas.



ENGINEERED FOR ECONOMY AND FLEXIBILITY

- Horizontal and vertical units alternate in a continuous chain traveling through special steel tubing.
- SAFE—all moving parts fully enclosed.
- Complete flexibility for installation in any plant. Easily installed, easily changed to conform to plant alterations.
- Low first costs. Low Power Factor.
- Standard horizontal or vertical curves—two-foot radius.

RICHARDS WILCOX R-W AURORA

1880 1951

OVER 71 YEARS

Richards-Wilcox Mfg. Co.

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SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT
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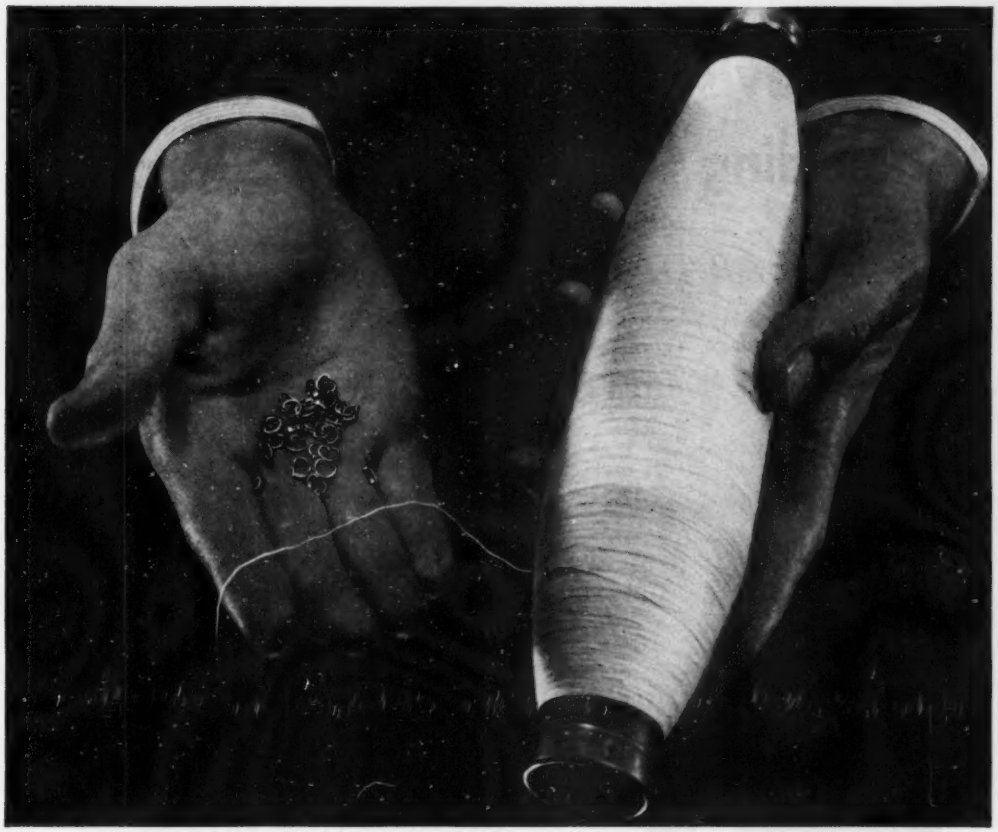

How Much Per Traveler-Pound?

The true test of a traveler is the number of pounds of top quality yarn which can be spun or twisted with it before it wears out. The more yarn produced, the lower your cost per traveler-pound.

Millmen who keep a sharp eye on production costs always judge travelers on this traveler-pound rating. And that's why so many choose Victor Travelers for spinning or twisting.

Victors consistently cost less per traveler-pound for two reasons. First, because there are no better travelers made, by any test of quality and uniformity. Second, because Victor Service Engineers, all mill-trained men, can quickly grasp your special problems, and come up with the right answer.

They can not only recommend the *right* traveler, but can often make other suggestions for improving your quality and production, —whether you are running conventional fibers, synthetics, or blends.

Plan now to talk to a Victor man about your costs per traveler-pound. Write, wire, or phone the nearest Victor office . . . for prompt service.

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VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

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on the entire Industry, are in the

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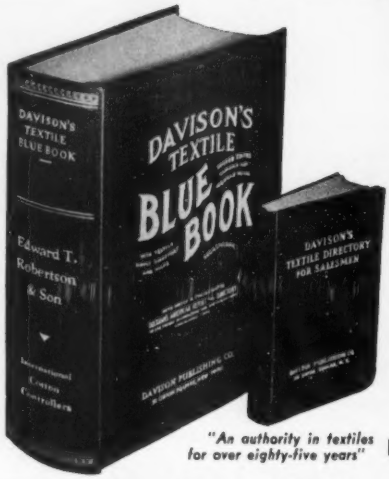
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Raw Cotton Firms

Carefully revised reports give firm names and style—broker, merchant, buyer, shipper, export or domestic—capital, partners or officers, kinds and number of bales of cotton handled, main and branch offices. Covers U. S. A., Canada and foreign countries and is nearly all personally checked for accuracy.

Every Spinner

In the United States and Canada is reported—date established, capital, officials' names, machinery operated, hands employed, kind and number of yarns made, cotton buyers' names.

All mills using Cotton (U. S. A. and Canada)

Many weavers, knitters and other mills spin their own yarns and buy large quantities of cotton. These are carefully reported with number of spindles operated. From the style of cloth made, it's easy to know the kind of cotton to offer.

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For Full-Bodied Softness...
Smooth Mellow Hand...
Rich Drape...

Here's an easy-to-handle, substantive synthetic softener in the form of a soft, cream-colored paste.

Syntho-Softener...

assures a soft, full bodied, velvety hand with maximum draping qualities for use on cotton, rayon, acetate, Bemberg, wool and nylon fabrics.

Write today for samples and a copy of the Syntho-Softener technical data sheet.

Syntho-Softener
ELIMINATES TROUBLE!

1. No effect on shade of dyed goods.
2. No yellowing of whites.
3. No rancidity on aging.
4. No discoloration on pressing.
5. No loss of light-fastness of dyed goods.

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Rayon Oils & Sizes	Conditioning Agents	Cationic Softeners
Nylon Oils & Sizes	Scrooping Agents	Cotton Warp Dressings
Kier Bleaching Oils	Splashproof Compounds	Wetting-Out Agents
Finishing Oils	Delustrants	Weighting Agents
Synthetic Detergents	Leveling Agents	Mercerizing Penetrants

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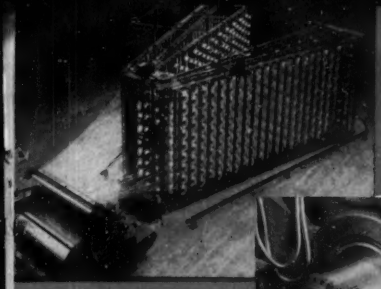
★

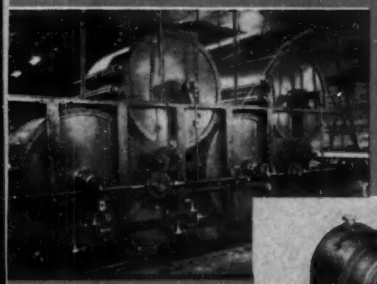
J. M. CLAYTON COMPANY

Contracting Electrical Engineers

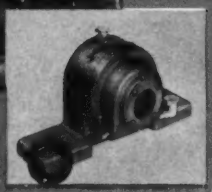
ATLANTA, GEORGIA

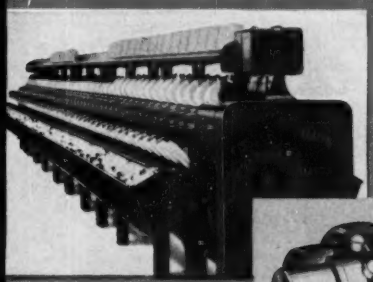


HIGH SPEED WARPER
Beam shaft equipped with Fafnir Radial shielded-type bearing.

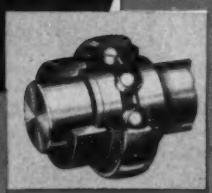


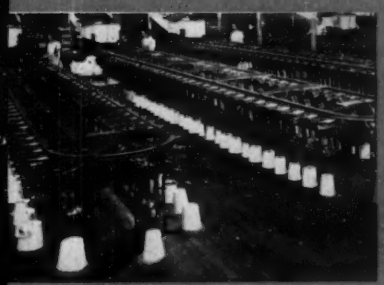
CYLINDER SECTION HIGH SPEED SLASHER
SAOL Pillow Block for combinations of moderate to heavy loads . . . fixed and floating types.





WINDER
Fafnir Mechani-Seal Wide Inner Ring Bearing with Self Locking Collar.





AUTOMATIC QUILLER
Fafnir Radial Type Bearings, available in standard shaft sizes and with various arrangements of seals and shields.

TURNING POINTS
to closer quality control
in Winding, Warping and Slashing

Cleaner, faster production and lower maintenance costs aren't the only advantages of ball-bearing-equipped winding, warping and slashing machines. Better quality control is "in the cards" too. For example, on Fafnir-equipped high speed winders, records show more uniform package density . . . on warpers, even length warps are assured. On high speed slashers, there's less strain on the warp when cylinders and creels are mounted on Fafnir Ball Bearings.

There's a Fafnir Ball Bearing or Complete "Packaged" Unit for every turning point, for every standard textile machine, for every textile operation from opening to finishing. Each of these bearings is the most advanced design, such as the Fafnir Wide Inner Ring construction with self-locking collar . . . easiest of all bearings to install. Check all the advantages . . . send for descriptive catalog. The Fafnir Bearing Company, New Britain, Connecticut.

Other FAFNIR UNITS for Winding, Warping and Slashing

- Cylinder Unit for Rotary Steam Joint Adaptation . . . Cohoes Slasher
- Cylinder Unit for Rotary Steam Joint Adaptation . . . Saco-Lowell Slasher
- Size Roll Unit Saco-Lowell Slasher
- Slasher Creel Stand Unit
- Rear Cone Unit . . . Saco-Lowell Slasher
- Front Cone Unit . . . Saco-Lowell Slasher
- Pressure Roll Unit
- Squeeze Roll Unit

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

THIS IS NO. 88 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

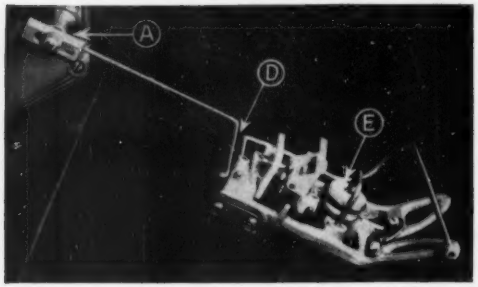


Fig. 1. Breakage lever properly set.

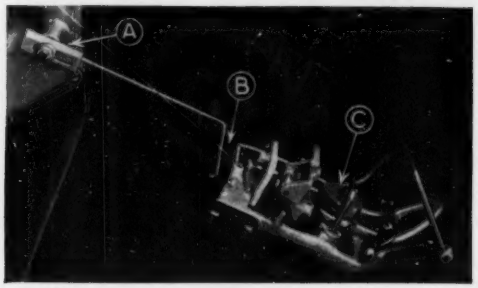


Fig. 2. Breakage lever set too far from tension bracket and improperly adjusted, requiring extra tension at C to hold down bail.

HOW TO SET THE BREAKAGE LEVER Roto-Coner*

The purpose of a breakage lever on a winding machine is to keep the stopping mechanism out of operation while the yarn is being wound and to actuate the mechanism quickly whenever the end breaks or runs out.

When the breakage lever is properly balanced and correctly positioned, yarn can be wound with a minimum amount of tension and without sacrificing winding speed. Counts of yarn finer than 100/1 can be wound even with only a felt washer (E) on the tension disc.

As illustrated in Fig. 1, the yarn, passing from supply to take-up package, travels *under* the tension bail and immediately afterwards *over* the breakage lever. This holds the breakage lever down and prevents it from actuating the stopping mechanism while winding is taking place. When a break or runout occurs the breakage lever is *released*.

The breakage lever should be adjusted and located to meet the following conditions:

1. It should rise *quickly* to actuate the stopping mechanism when an end breaks or runs out.

2. It should not vibrate or flutter during winding, nor should it require added tension on the yarn to prevent it from fluttering.

Obviously, if the breakage lever isn't properly balanced, it may require *extra* tension on the yarn in order to keep the breakage lever from rising. However, this practice is not recommended, because the extra tension makes hard packages, strains the yarn and, in the case of weak or fine yarns, causes unnecessary end breakage.

When the breakage lever is properly balanced, only a feather-touch contact is required between yarn and breakage lever. No extra tension is required to hold it down.

Balance is also affected by the proximity of the breakage lever to the tension bail. If it is positioned too far away from the bail (arrow B in Fig. 2), extra tension weights (C) may be required to hold it down, which is undesirable.

The proper balancing is accomplished by means of the counterbalancing clamps (A in Fig. 1) which have elongated slots permitting adjustment backward and forward to regulate the action of the breakage lever.

The proper method of making the adjustment is as follows (the Roto-Coner* can be kept in operation while this is being done):

1. Loosen the nut which holds the counterbalancing clamp.

2. With the left forearm, depress and hold down the starting handle; this leaves the left hand free to —

3. Bring the breakage lever down close to, but not touching, the back of the tension bracket, and also close to the tension bail as shown at (D).

4. Adjust the clamps backward or forward until they are in a position that will permit the breakage lever to rise promptly when the starting handle is released.

5. Tighten the nut that holds the clamp. The breakage lever should now be located close to the tension bail and almost touching the top of the tension bracket.

September 1951

23.1.1

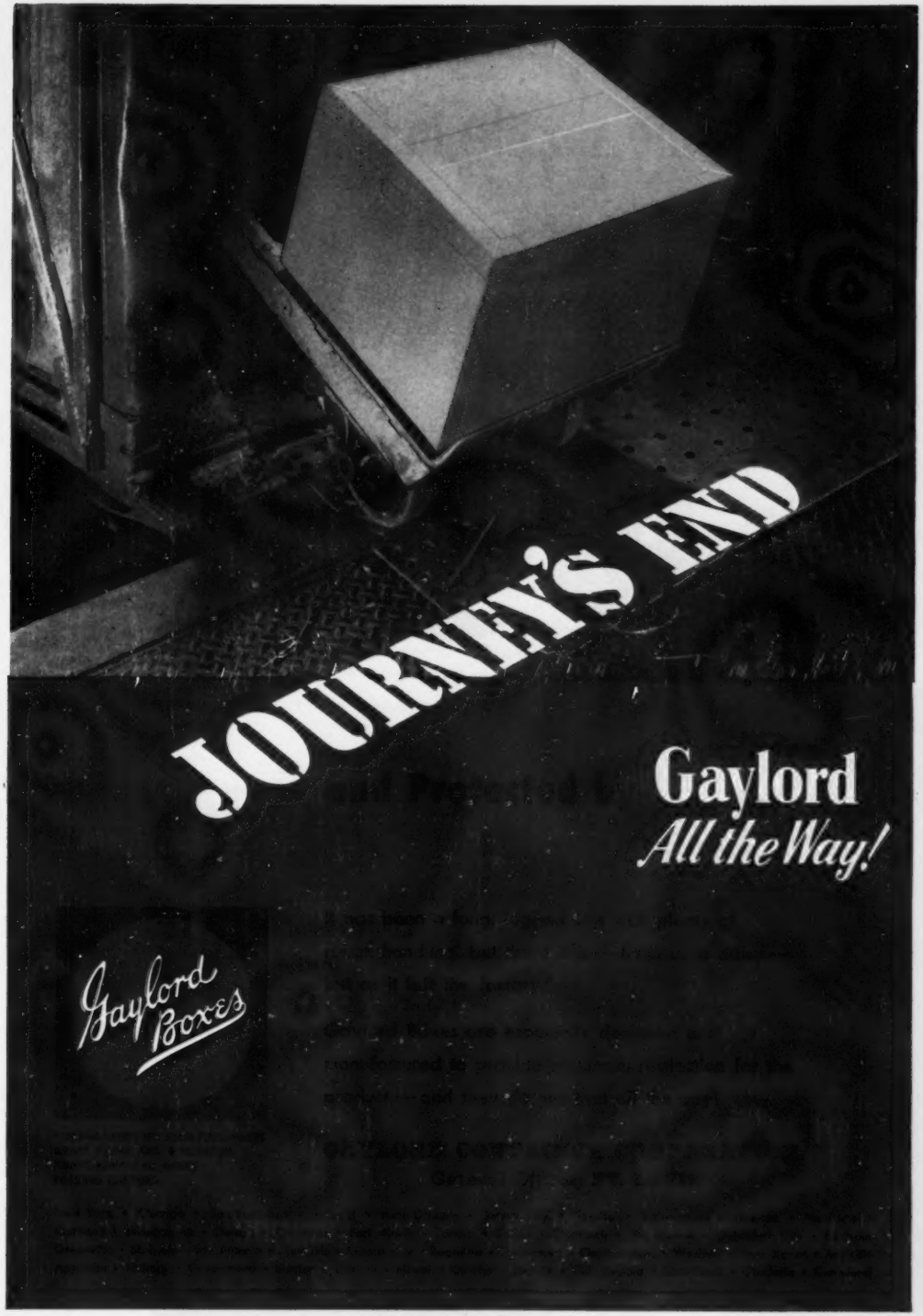
*Reg. U. S. Pat. Off.

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

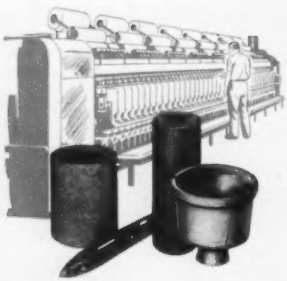
Universal Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON


JOURNEY'S END
Gaylord
All the Way!
Gaylord Boxes

In vital places in the textile industry

micarta is basic!



TEXTILE INDUSTRY

Bobbins, shuttles, spools and lap rolls are typical of MICARTA products which are vital elements in textile production. Its tough, light, long-wearing qualities offer infinite possibilities in the growing textile industry.

MICARTA® helps keep key machines productive. It is a basic material . . . a versatile plastic which outlasts metal and wood in many punishing applications. Bobbins, shuttles, spools and lap rolls are only a few of the many MICARTA products paying their way in your industry.

MICARTA safeguards yarns and fabrics. It won't chip or splinter. It wears evenly and smoothly, absorbs shock and vibration, resists heat and cold.

This lighter-than-aluminum material can be machined, formed or molded easier and more economically than metal. Protect your vital applications with MICARTA. Westinghouse Electric Corporation, MICARTA Division, Trafford, Pennsylvania. J-06448

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An outstanding khaki designed to meet exacting military requirements . . . a vat dye that fully lives up to the quality trade name AHCOVAT . . . in every performance!

AHCOVAT KHAKI 2G

This AHCOVAT has excellent fastness, making it extremely valuable for dyeing materials where high standards of fastness of colored goods to bleaching or to repeated laundry treatment are required. Among these are men's workclothes, shirtings, fancy towelings, etc. AHCOVAT KHAKI 2G is also of exceptional interest for the dyeing of fast khaki shades for military purposes.

Specific formulas for application will be submitted upon request of detailed requirements.

Shade cards on request.

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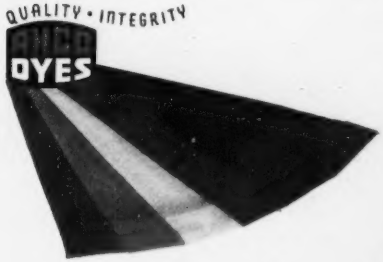

Picker Repair Parts--*Quickly*

We keep in stock for prompt shipment all parts for Kitson pickers as well as those of our own manufacture. For years we have shipped practically all repair part orders within 24 hours from the receipt of the order.

Most of our customers keep few, if any, picker repair parts in their stock rooms, but depend on our stock for service. This will be particularly desirable during the war emergency, when one large, available stock of parts can take the place of hundreds of incomplete stocks which would tie up a great deal more critical materials than the one large stock.

Our hundreds of regular customers are familiar with our service and depend on it. To those who are not our customers, we extend a cordial invitation to come to us in any emergency in the picker room.

We manufacture a complete line of picking, opening and blending machinery, and also rebuild like new old machines which are in need of replacement.

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"Tycol Alweave cuts spindle drag... reduces thread breakage... jumps production"

Right! The stability and lubricating value of Tycol Alweave Spindle Oils assure minimum wear and low power consumption, all helping to step up production by reducing drag and thread breakage.

A wide range of Tycol Alweave Textile Oils is specially designed in both mineral and compounded grades to cut costs in other processes in your mill.

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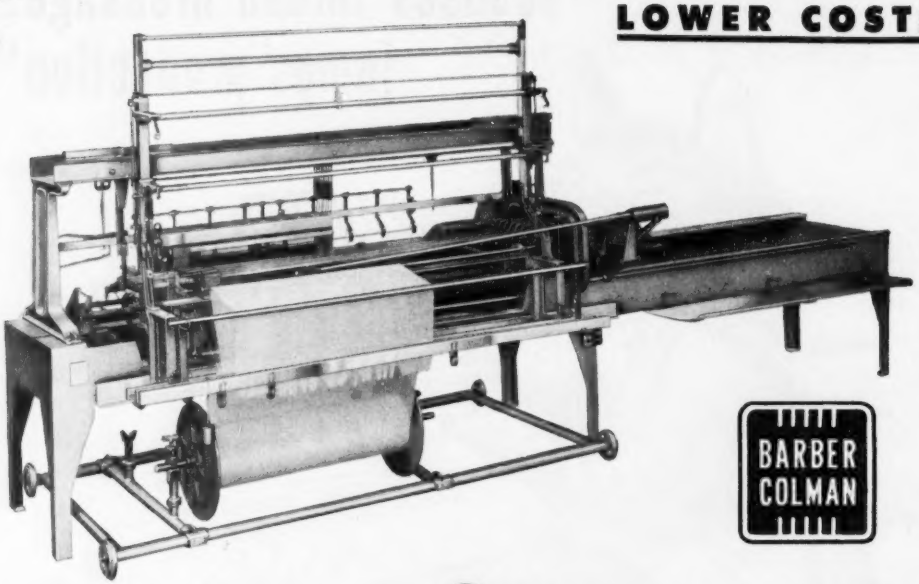


BARBER COLMAN

BARBER-COLMAN MODEL E *Warp Drawing Machine*

The Model "E" Barber-Colman Warp Drawing Machine is designed to cover the needs of a wide variety of weaving mills. Manufacturers of shirtings, broadcloths, lawns, voiles, sateens, ginghams, dress goods, and sheetings, or mills running filament rayon, will find this particular model extremely suitable. Mills having a predominance of cam loom weaving, or whose cloth construction does not require more than 8 harness and 6 banks of stop motion, and where styles and patterns are frequently changed, will find this model exceptionally useful.

Field reports show up to 4500 Ends per Hour
Will draw warp from 10 to 300 ends per inch
Will draw from flat sheet or 1 x 1 lease
Will draw from single or double beam or split sheet
Will draw 1 x 1 lease in double beam or split sheet

Warp threads are drawn through drop wires, heddles and reed
IN ONE OPERATION
from a pre-determined draft

HARNESS FRAME LENGTHS	
Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

MACHINE CAPACITY
The Model "E" can be furnished in the following capacities at no difference in cost:
Reed, 8 Harness, 6 Banks of Drop Wires
Reed, 10 Harness, 4 Banks of Drop Wires
DROP WIRE CAPACITY: 9/32" through 3/4" wide

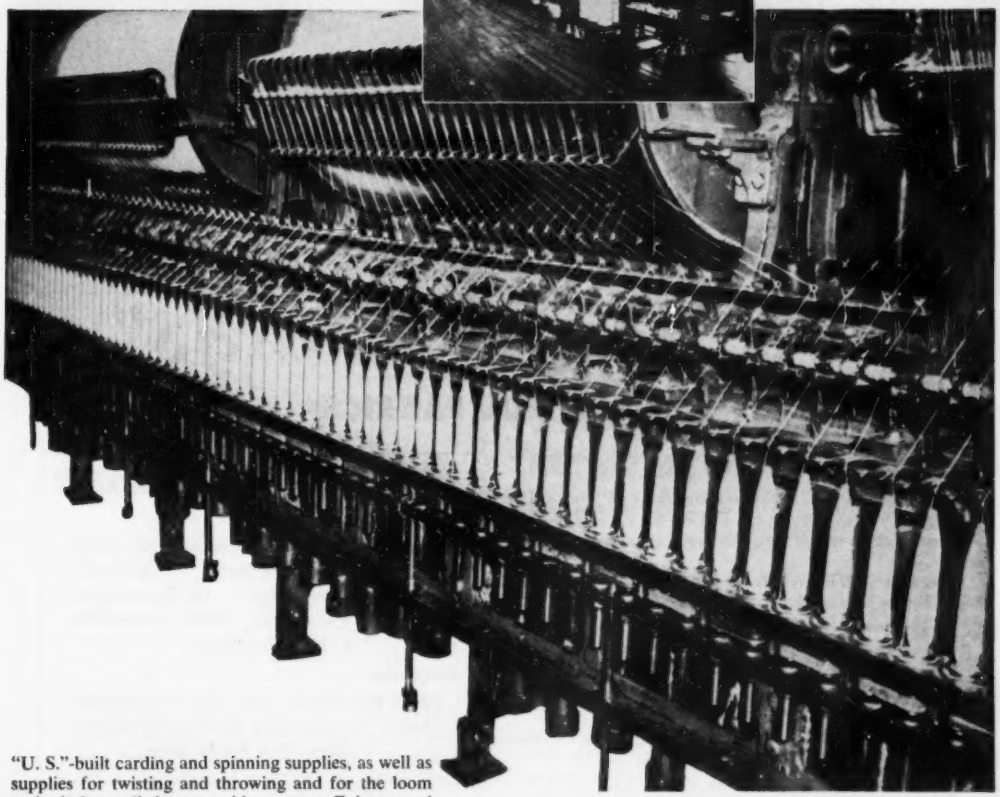
WILL DRAW
- Cotton Yarns
- Filament Yarns
- Spun Yarns
- Woolens and Worsteds
- Monofilaments

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY

What's U. S. Rubber's big news about textile mill specialties?

THESE BOBBINS in the Shelbyville Plant of United States Rubber Company are made of Uscolite, one of the remarkable new rubber-plastic compounds developed by "U. S." scientists. Mill specialties made of Uscolite last longer, do a better job. Inset photo, at top, shows spooler sleeves made of Uscolite.



"U. S."-built carding and spinning supplies, as well as supplies for twisting and throwing and for the loom and winder – all these provide greater efficiency and greater endurance than has been possible up to now. These supplies, made of plastic or plastic compounds, developed and perfected by "U. S." specialists, have a new ruggedness and they increase the quality of production. Start *now* to step up your operating efficiency and to lower your operating costs. Write to address below.

PRODUCTS OF U.S.RUBBER SERVING THROUGH SCIENCE

U. S. TEXTILE MILL SPECIALTIES

Spooler sleeves • Filling bobbins • Spindle bumper tubing • Warp spinning tubes • Cap butts • Ustex-nylon spinner belts • Loom bumpers • Presser roll tubing • Loom straps • Warp compresser roll covers • Sand roll covers

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

HOW TO ASSURE "Happy Endings" FOR WOOL FABRICS

A lot of things can happen to woolen fibers while they're being transformed into yarns and finished fabrics. This is particularly true in the carding and spinning operations. Lubricate your fibers with the proper oil, and you're well on your way to good, saleable fabrics.

And one of the surest ways to head toward a "happy ending" for your finished fabrics is to give your woolen fibers the protection of Proxol.

CHECK THESE PROXOL ADVANTAGES!

In *Carding*

Stable Emulsions • Excellent Fiber Lubrication • Minimum Waste • Less Static • Less Fiber Breakage • No Gumming of Cards • No Corrosion • Better Condensing • More Production •

In *Spinning*

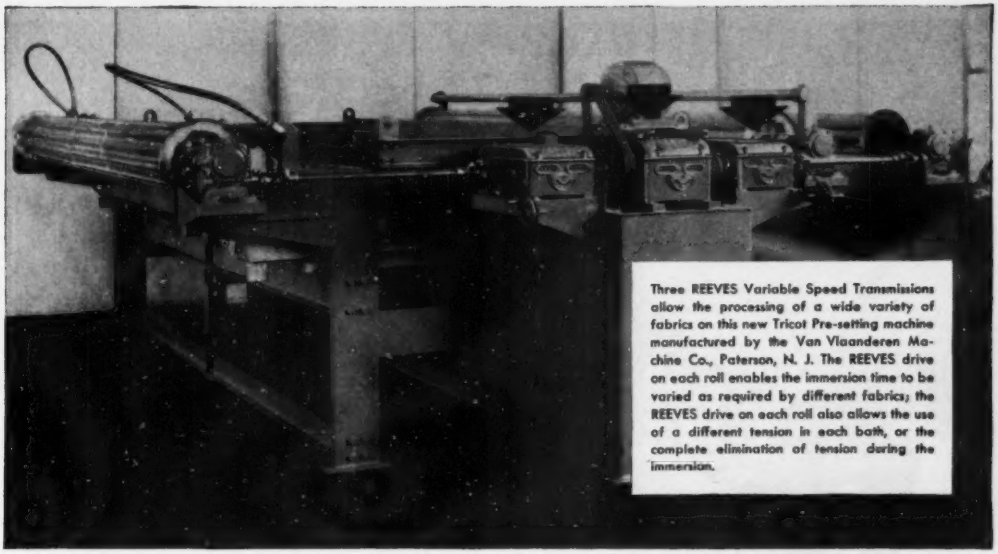
Fewer Ends Down • Stronger, More Uniform Yarns • Increased Spinning Production • More Yarn Per Package •

Proxol scours easily—regardless of the storage period. It won't heat up on storage . . . won't develop odors or discolorations. It's efficient...it's safe...it's economical. Try Proxol for a month and you'll understand why more and more textile men agree that it's today's "best buy" in wool oils.

PROCTER & GAMBLE PROXOL MADE IN U.S.A.

—made by the makers of Olate, Orvus and Profine

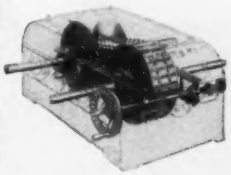
Procter & Gamble CINCINNATI, OHIO



Three REEVES Variable Speed Transmissions allow the processing of a wide variety of fabrics on this new Tricot Pre-setting machine manufactured by the Van Vlaanderen Machine Co., Paterson, N. J. The REEVES drive on each roll enables the immersion time to be varied as required by different fabrics; the REEVES drive on each roll also allows the use of a different tension in each bath, or the complete elimination of tension during the immersion.

REEVES Variable Speed Transmission

Operating Principle



REEVES Variable Speed Transmission embodies the proved operating principle of a V-belt driving between two pairs of cone-shaped discs, mounted on parallel shafts and adjustable to form an infinite number of driving and driven diameters. One shaft receives power at constant speed from motor, line shaft, etc. Other shaft delivers power at infinitely variable speeds to driven machine. Each speed setting is held without fluctuation. Operation is practically noiseless.

The textile industry's most widely used unit for adjusting machine speeds here's why:

1 Incorporates the REEVES operating principle—proved in 300,000 installations—which assures *accurate, positive* delivery of any desired speed within the entire speed range, without stopping the machine.

2 Makes "changeovers" easier—utilizes the machine's *full* capacity—by providing the *right* speed—with the turn of handwheel or touch of button—for every operation and every operator, under every changing condition.

3 Wide choice of vertical and horizontal models—capacities up to 87 hp; in speed ratios as great as 16 to 1; manual, electric, hydraulic or completely automatic controls; suitable for mounting in any position.

4 Easily installed on your machines. Ruggedly constructed with few moving parts subject to wear . . . requires no special tools or training to maintain.

Profit from REEVES Speed Control in your mill—*see immediate results.* Send for full details on REEVES Speed Control—ask for catalog No. T 74-G.

REEVES PULLEY COMPANY · COLUMBUS, INDIANA

Recognized leader in the specialized field of speed control engineering

accurate · variable
REEVES *Speed Control*

MAKE FINER, TIGHTER *Lace edgings*

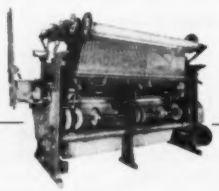
Cut production costs, too. With the *Kidde* Knitter five or six guide bars can be used to produce edgings of a quality much in demand today. Even on six guide bar work, production speeds of *160 courses per minute* or better are being maintained.

That rate of production is *substantially higher* than has ever been reached on this type of machine before—but it's *typical* of the high, *sustained* speeds attainable with the *Kidde* Knitter. Thanks to a new drum drive, a new motion on needle bars these speeds are possible—and the entire machine is designed to withstand them.

See for yourself how the *Kidde* Knitter is adaptable to practically any type of yarn, thread or elastic—how it is set up for simple or intricate patterns quickly and easily. We will be pleased to show you a machine in operation at our plant.

Use the Kidde Knitter to make these fabrics, too

Elastic Fabrics for corsets, girdles, brassieres. Dress Fabrics. Dish Cloth Materials. Curtains. Narrow Fabrics: edgings, braidings, laces. Shoe Cloth. Knitted Outerwear Fabrics for sweaters, polo shirts. Nets and veilings.



KIDDE MANUFACTURING CO., INC., BLOOMFIELD, N. J.

Kidde Knitter

Here is *Exactly WHY* a V-Belt with CONCAVE SIDES Gives You *Longer Wear!*

To see for yourself how a V-Belt that has *concave sides* is certain to give longer wear, just make this simple test:—

Pick up any V-Belt you have at hand. Bend that belt as it bends around a pulley. As it bends, grip its sides between your fingers. Here is what will happen *everytime*.

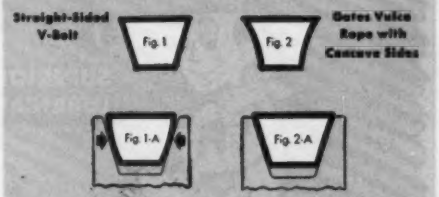
If the V-Belt you are testing has *straight sides*, you can feel those sides *bulge out* as the belt bends. This out-bulge forces the sides of the belt to press *unevenly* against the V-Pulley and you naturally get *concentrated* wear just where the bulge is greatest—as shown in figure 1-A, at right.

Now, make this same test with the belt that is built with *Concave Sides*—the Gates Vulco Rope!

Whereas you felt an *out-bulge* when you bent a belt with straight sides, you find that the *Concave Sides* merely fill out and become *perfectly straight*. The sides therefore *press evenly* against the V-Pulley. This distributes the wear *uniformly* across the *full width* of the belt. Naturally, this means longer belt life and *lower* belt *costs* for you!

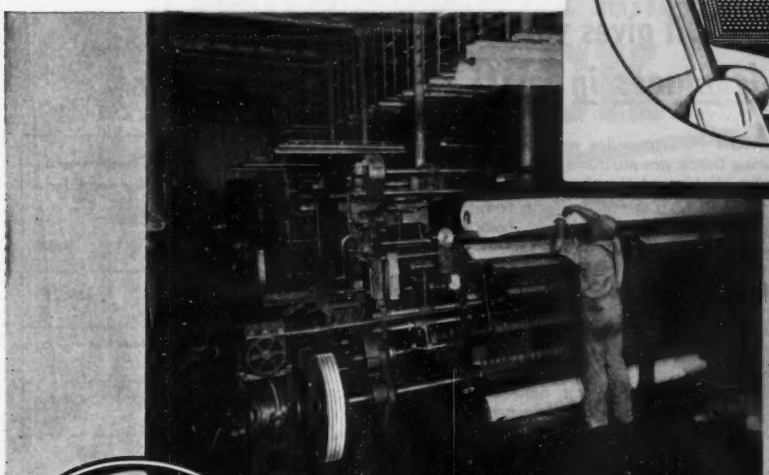
Only V-Belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure that you get the V-Belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends



How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill Out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley — Uniform Wear — Longer Life!



31 lace machines at Field Crest Mills, Zion, Illinois, were originally driven by open gears. All were converted to Gates Vulco Rope Drives in 1946. Many of the drives still are using the original sets of belts.

D CS-517

Gates® Hose V-Belts Molded Rubber Goods for Industry

VULCO ROPE DRIVES

ENGINEERING OFFICES AND JOBBER STOCKS IN ALL INDUSTRIAL CENTERS

THE GATES RUBBER COMPANY

DENVER, U. S. A.

The World's Largest Makers of V-Belts

For Sanforized fabrics don't settle for less:

Twitchell 7250 Oil gives you *all three advantages in one!*

SUPERIOR FIBER LUBRICATION . . . provides easy and uniform rearrangement of fibers during fabric pre-shrinking, assuring more uniform goods . . . eliminates sticking at the shoes.

FASTEST REWETTING . . . through high speed, uniform rewetting, you get increased production efficiency. For example, treating a 6 oz. untreated duck with a 3% solution of Twitchell 7250 reduces rewetting time from *5-10 minutes to only 15.2 seconds!* Rewetting ability is not affected by prolonged aging on fabrics or by finishing agents.

SOFT HAND . . . enables you to save on other finishing agents normally needed. In many cases Twitchell 7250 provides *all* the necessary softness.

In addition, this oil resists staining, yellowing, oxidation and rancidity . . . gives you the best rewetting buy on the market today. Save time, money . . . buy Twitchell 7250 today.

For a recommendation to fit your particular need, contact our Development and Service Department.

Other Twitchell Oils for other requirements. Select the one that best suits your conditions.

PRODUCT	FIBER LUBRICATION	REWETTING	SOFTNESS	STAINING
Twitchell 7250	Very Good	Fastest	Softest	None
Twitchell 7240	Excellent	Fast	Moderate	None
Twitchell 7231	Excellent	Medium	Slight	None

Emery *Twitchell Textile Oils*

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Warehouse stocks also in St. Louis, Buffalo and Baltimore

This is the sheave that's being used to *modernize* mill drives. Proved in over 3/4 million installations!

TAPER-LOCK

1 No flange. No collar. It's different.

2 Easy on — easy off.

3 Just tighten the screws that wedge the bushing. Simple, isn't it?

4 Always a perfect fit on shaft — tight as "shrunk-on."

5 Complete range of sizes. A, B, C and D grooves.

6 Try it—and you'll standardize on it!

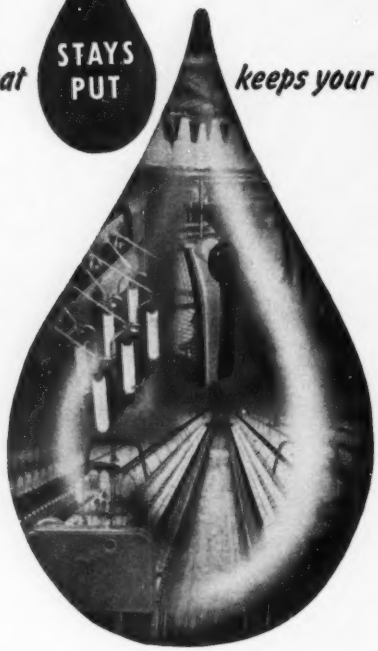
DODGE MANUFACTURING CORPORATION, 3500 UNION STREET, MISHAWAKA, INDIANA

CALL THE TRANSMISSIONEER, your local Dodge Distributor, for information on new and better methods of transmitting power. Look for his name under "Power Transmission Equipment" in your classified telephone book.

DODGE

of Mishawaka, Ind.

Oil that STAYS PUT *keeps your mill equipment running longer...on less!*



Use Houghton **STA-PUT LUBRICANTS**

from blending to finishing room

NEW NEEDLE RUST PREVENTIVE #216

—a triple-use oil which removes built-up nylon size, keeps needles clean and corrosion-free, and lubricates them against wear! Try this mill-proved product if you have a size-accumulation or corrosion problem.

HOUGHTON "KENSINGTON" SPINDLE OILS

are chemically fortified and extreme-pressure-treated to provide high film strength and stability. They eliminate gum resin deposits. Here's perfect lubrication for today's high speed spindles. Write for bulletin.

• You get extra money-saving benefits by using STA-PUT lubricants. First—because it's polymerized—this high quality "oily" oil holds fast to metal parts. You needn't worry about dripping and splattering. It stays put. Keeps fabrics safe from staining—machines and floors oil free.

What's more, the high film strength this treatment gives STA-PUT means reduced friction and wear of moving parts. STA-PUT's greater load-carrying capacity enables this oil to handle shock loads with safety.

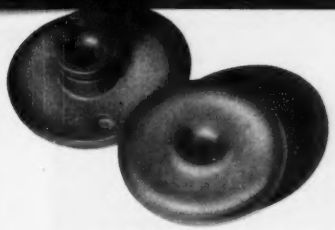
STA-PUT lubricants—and other specialized oils developed by Houghton for the textile industry—are covered in a descriptive bulletin "Houghton Lubricants for Textile Machinery". Would you like to have a copy? Write E. F. Houghton & Co., Philadelphia 33, Pa. Or ask the Houghton Man when he calls.

products of

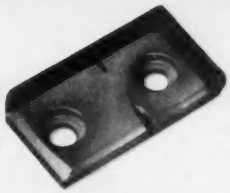
E. F. HOUGHTON & CO.

PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

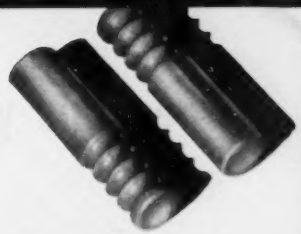
Ready to give you on-the-job service . . .



GE-19123
Lower price. Balloon Eyelet for Reiner Warp Creel.



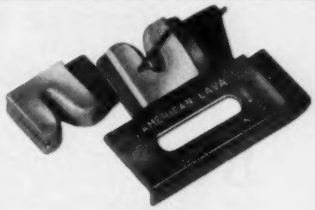
GE-24723
Foster Base Plates. Give longer life and greater dimensional accuracy.



GE-24643
Snub Guide with multiple grooves to keep yarn strands separate.

GE-24476
Acme High Speed Spooler. Accurate dimensions with 1/32" slot for yarn.

GS-24766 Stop Motion Finger for Circular Knit Machines.
Improved design and greatly reduced cost.



GS-20201
Winder and Redraw Guide. Guard keeps yarn confined in slot.

NEW DESIGNS
AND IMPROVEMENTS IN ALSIMAG
Thread Guides

GE-24909-A
Tension Disc. FLAT and exceptionally long wearing. Ground surfaces.

GE-24499
Compensator Eye. Well rounded heavy radius yarn surface, highly polished.

Since AlSiMag thread guides are custom made, you can get exactly the type of guide you need for your specific requirements. If we do not already have a design that precisely meets your needs, we'll gladly work with you to develop one. Improved designs and methods to reduce costs are constantly studied. Our experience gained in several thousand experimental designs can help you. All AlSiMag guides are hard, homogenous, extra-long lived, dimensionally accurate and uniform. They can be furnished in bright or satin finish. Special hand made samples furnished promptly at reasonable cost. Samples from our files sent without charge. Test AlSiMag guides and you'll see why we say they are lowest in cost per pound of yarn processed.

AMERICAN LAVA CORPORATION
50TH YEAR OF CERAMIC LEADERSHIP
CHATTANOOGA 5, TENNESSEE
NEWARK • CHICAGO • PHILADELPHIA • LOS ANGELES • CAMBRIDGE • ST. LOUIS

GE-24446
Abbott Eyelet for Quill Winder and Detector Eye. Slotted for spring clip—keeps eye from turning or jumping out.

GE-21794
Universal Coning. Guide with wider slot. For heavy denier yarns.

GE-24244
Quiller Eye. Yarn can not jump out yet price is lower.

Does this yarn meet uniformity specifications?

you get a quick answer with a Brush Analyzer

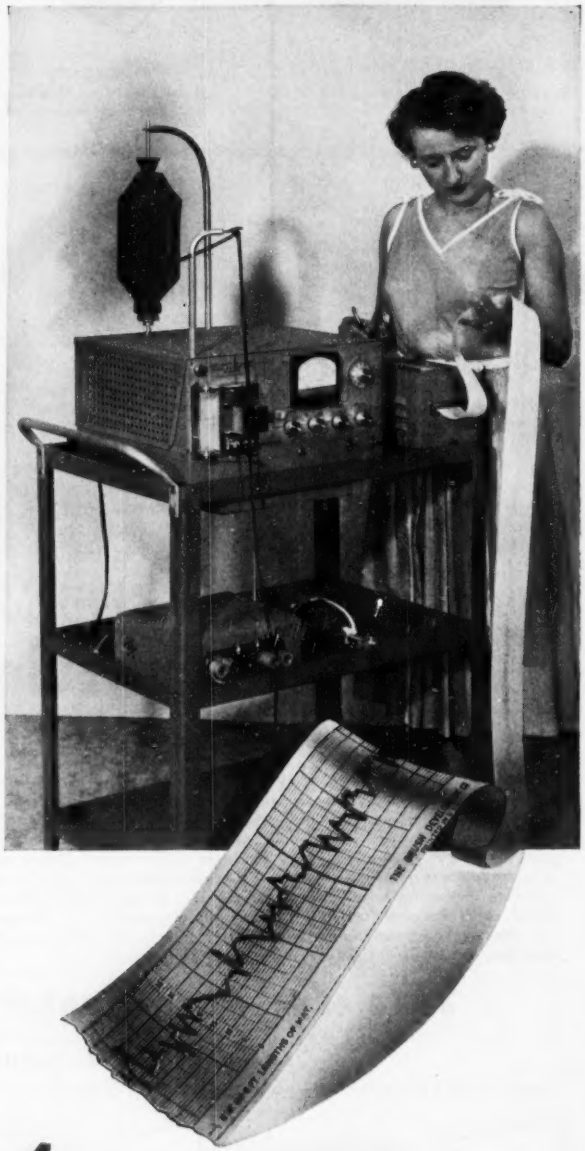
BRUSH'S NEW Textile Uniformity Analyzer provides a speedy production tool for checking and grading the uniformity of yarn, roving, or sliver—*at speeds up to 5 feet per second.*

Irregularities in weight per unit length are automatically put in writing, on record graphs which you can keep for future reference. With them, you can make accurate comparisons between yarns spun from different stock or spun by different methods. Guesswork is eliminated.

There's troubleshooting help here also. To an experienced operator the graphs point to the cause of non-uniformity, whether in the sliver, roving, or spinning stage. Added information is given on a meter, which indicates average wool or cotton count.

The Analyzer is calibrated for cotton or wool, as specified, and can be adapted for other materials, including Nylon, rayon, other plastics. The separate heads for yarn, roving and sliver can be interchanged easily. The unit is complete, includes measuring head, amplifier, oscillograph, yarn drive, handling fixtures.

Take the first step now for more efficient quality control—write for complete information. The Brush Development Company, Dept. T-12, 3405 Perkins Ave., Cleveland 14, Ohio, U.S.A. *Canadian Representatives:* A. C. Wickman (Canada) Limited, P. O. Box 9, Station N, Toronto 14, Ontario.

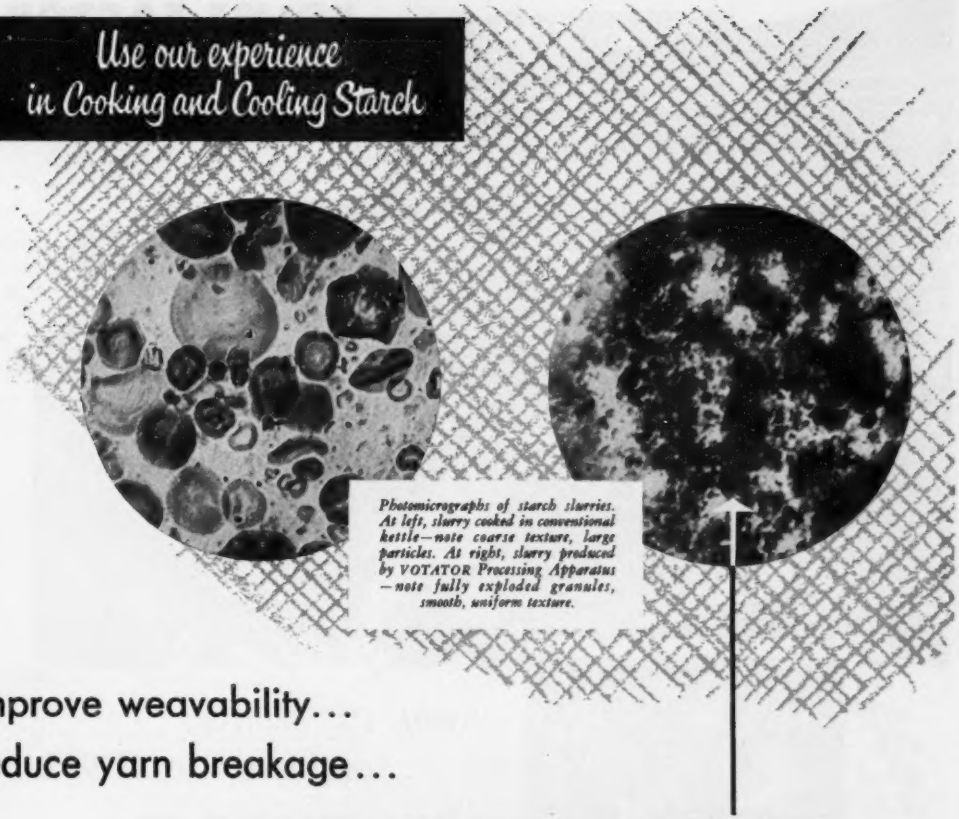


THE Brush DEVELOPMENT COMPANY

Put it in writing with a **BRUSH RECORDING ANALYZER**

PIEZOELECTRIC CRYSTALS AND CERAMICS • MAGNETIC RECORDING • ELECTROACOUSTICS • ULTRASONICS • INDUSTRIAL & RESEARCH INSTRUMENTS

Use our experience in Cooking and Cooling Starch



Photomicrographs of starch slurries. At left, slurry cooked in conventional kettle—note coarse texture, large particles. At right, slurry produced by VOTATOR Processing Apparatus—note fully exploded granules, smooth, uniform texture.

improve weavability...
reduce yarn breakage...

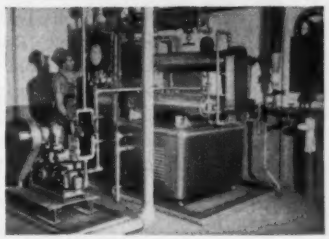
WITH FINER TEXTURE WARP SIZE

A SIZE OF FINER TEXTURE and correct viscosity—as produced by VOTATOR Warp Size Processing Apparatus—penetrates into the warp yarn, lays the fibres smoothly, forms a tough, pliable film. Thus the yarn's resistance to the strain of weaving is increased, breakage and shedding greatly reduced.

In VOTATOR Processing Apparatus, each starch granule is completely exploded and mixed. Size is produced at the exact viscosity desired because precise mechanical control is maintained over all process factors. Less starch is needed, there is less starch for the converter to wash out.

Operation is simple, requires a minimum of labor. Continuous, *fully-enclosed* processing also eliminates spillage and slimy deposits on the floor. And with no open handling, material waste is reduced.

Send the coupon today for complete data on processing finer warp size to help you do a better weaving job. The Girdler Corporation, Votator Division, Louisville 1, Kentucky.



GIRDLER
CORPORATION
Votator Division

VOTATOR T. M. Reg. U. S. Pat. Off.

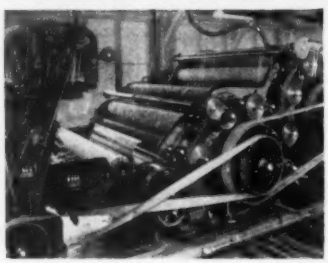
The Girdler Corporation, Votator Division
224 East Broadway, Louisville 1, Kentucky

Please send bulletin on the following:

- ☐ Warp Size production with VOTATOR Processing Apparatus.
- ☐ Printing Gum production with VOTATOR Processing Apparatus.
- ☐ Backfill production with VOTATOR Processing Apparatus.

Name .....
Position .....
Company .....
Address .....
City ..... State .....

PRIME FACTOR for BETTER CARDING

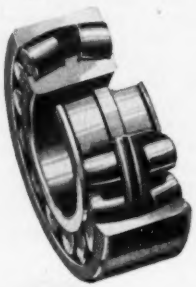


—*with 135 bearings engineered by* SKF

Duesberg-Bosson of America, Inc.* in designing this Woolen Card built-in these performance factors . . . effective and efficient manner of carding of wool, impressive high rate of production, noticeable enhancement of quality, with low maintenance and operating costs. To help guarantee such performance, Duesberg-Bosson's design calls for 135 SKF bearings. And 2200 Duesberg-Bosson Patented Peralta Machines are in operation in American and Canadian mills—equipped with SKF bearings. That's the reason one manufacturer relies on SKF—a good reason why SKF can help you to put the right bearing in the right place.

7230

**For complete details on woolen cards as built by Duesberg-Bosson, write the Company at Fitchburg, Mass.*



8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
metallurgy
tolerance control
surface finish
product uniformity
engineering service
field service

SKF

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manufacturers of SKF *and* HESS-BRIGHT *bearings*

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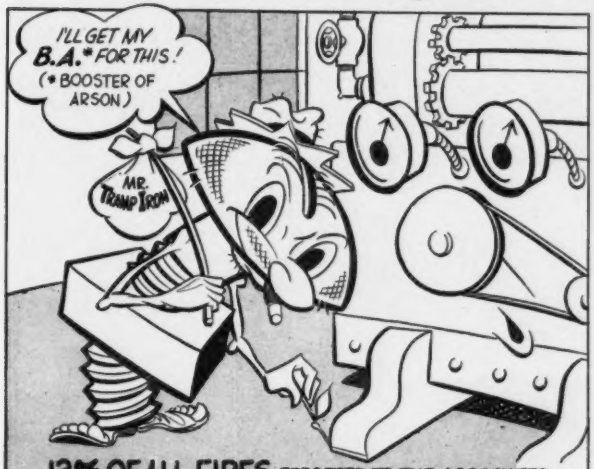
ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS AND SELLERS OF (RCA) ELECTRONIC METAL DETECTORS



12% OF ALL FIRES REPORTED TO THE ASSOCIATED FACTORY MUTUAL FIRE INSURANCE COMPANIES OVER A 7-YEAR PERIOD WERE CAUSED BY FOREIGN MATERIAL IN STOCK. ***ERIEZ*** *PERMANENT MAGNETIC SEPARATORS* PREVENT SUCH FIRES BY REMOVING TRAMP METAL FROM FOODS, CHEMICALS, TEXTILES, GRAIN, RUBBER, ETC. IN PROCESS... MAINTENANCE AND DOWNTIME ARE ALSO ELIMINATED.

70 SHINGLE NAILS REMOVED....

.....FROM 10 SACKS OF GRAIN BY ***ERIEZ*** PLATE-TYPE *ALNICO* ***ATOM*** *MAGNETS* SAVED MANY A FARM ANIMAL FROM AN IRON DIET THAT WOULD HAVE KILLED HIM. FOOD EARMARKED FOR HUMAN CONSUMPTION IS JUST AS EASILY PROTECTED.

....AND EASILY WITH AN ***ERIEZ*** *ROTARY MAGNET SWEEPER.* SAVES DAMAGE, INJURY, HEADACHES. COSTS AS LITTLE AS $32.00.... AVAILABLE ON 10-DAY FREE TRIAL.

AUTOMATIC SEPARATION OF IRON AND STEEL FROM FOUNDRY SAND MAKES RECONDITIONING EASY. IT'S SIMPLE WITH AN ***ERIEZ*** *ALNICO MAGNETIC PULLEY*... FITS ANY BELT CONVEYING SYSTEM. CAN BE USED FOR PRACTICALLY ANY MATERIAL IN ANY INDUSTRY.

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1501 EAST 12TH STREET, ERIE, PA.

MY CONTAMINATION OR SEPARATION PROBLEM IS:

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PLEASE SEND LITERATURE ☐ CATALOG #15 ☐
HAVE REPRESENTATIVE CALL ☐ PROMPTLY ☐ WHEN IN AREA

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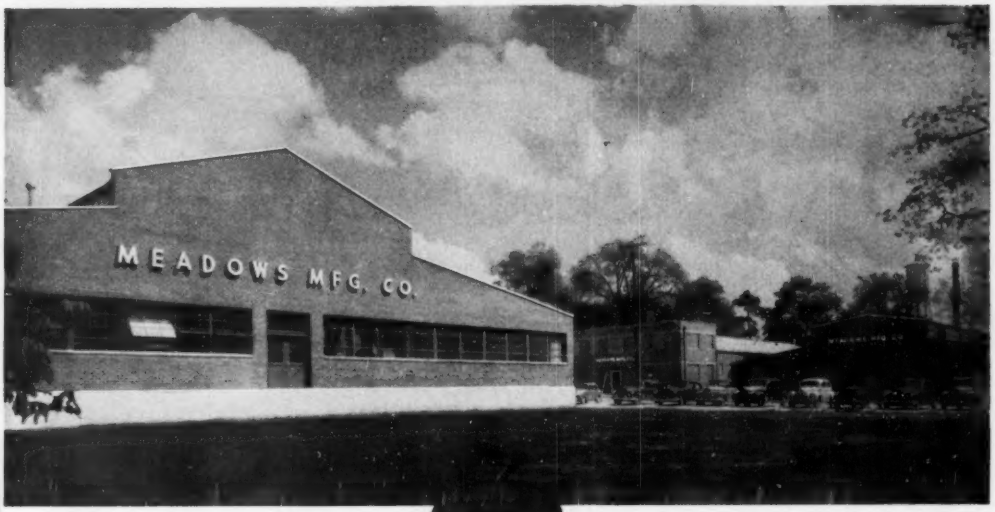
51 I

"...from little acorns grow."



1931 1951

In this our twentieth anniversary year, may we express to our friends in the textile industry, our heartfelt thanks and our humble appreciation for your friendship, understanding and loyal support that has made our growth possible. To you we are sincerely grateful.

Meadows
MANUFACTURING COMPANY
ATLANTA

QUALITY...BACKED BY A DESIRE TO PLEASE

NATIONAL ANILINE VATS AND NAPHTHOLS

With greater output of a longer line of Vats and Naphthols, we are doing everything possible to provide more dyestuffs for military needs, as well as for exciting new color-effects in civilian textiles. On difficult dye jobs, ask National Technical Service to provide matches and formulas based on currently available

National Aniline Dyes

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Philadelphia Chicago San Francisco
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LOOM PARTS

HFL IMPROVED PICK CAM HUB

HFL IMPROVED CLUTCH FINGERS

HFL IMPROVED PICK ARM

3 TYPICAL PROOFS of LIVERMORE LEADERSHIP

OUR SOLE REASON FOR EXISTENCE is to manufacture improved loom parts. That's all we do! No wonder, then, that our concentration on this single endeavor for 64 years has brought about our position as leader in the industry.

"Following the leader" has become a noticeable trend! For example, the Pick Cam Hub was HFL-IMPROVED back in 1920 — 11 years later, in 1931, it was copied. The Clutch Fingers were HFL-IMPROVED back in 1944 — 6 years later, in 1950, it was copied. The Pick Arm was HFL-IMPROVED back in 1925 — 6 years later, in 1931, it was copied.

From these instances, you can see what a decided advantage a mill has in always using *HFL IMPROVED LOOM PARTS*. You get all the improvements quicker!

Our job is to make your looms run better, step up your quality, and give you less trouble. We accept this responsibility because LIVERMORE LEADERSHIP is more than a catchy phrase.

HFL

IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

Finishing headaches?

Quick cure!

Some finishers take a pill to get rid of their on-the-job headaches.

The smart ones get in touch with Monsanto for Catalyst AC, for in hundreds of finishing plants, millions and millions of yards of goods have been resin-treated with the help of Catalyst AC. Catalyst AC cures the resin as fast or faster than other catalysts. In a customer test on an 80 x 80 cotton fabric, for example, we found resin retention fully comparable to that obtained with other catalysts, but the hand was softer and wrinkle-resistance superior. Here are the actual data:

% Urea Resin Applied	Catalyst	% Resin Retention	Stiffness (Gurley)	Wrinkle-Resistance
8%	AC	85%	4.7	137°
8%	DAP	86%	4.9	131°
8%	Competitive Catalyst	84%	5.0	130°

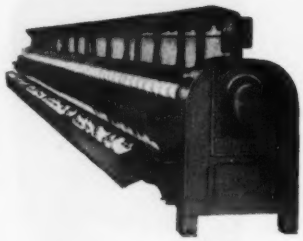
In addition to these *performance* advantages, think of the advantages in your mill. With Catalyst AC, as you know, a urea-formaldehyde bath (36% solids) is stable for 24 or more hours—not only a convenience, but in some mills a real money-saving plus. Of course Catalyst AC is completely compatible with the usual softeners and penetrants.

For more information or technical help at your plant, please write MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept., Everett Station, Boston 49, Mass.

MONSANTO
CHEMICALS — PLASTICS
SERVING INDUSTRY... WHICH SERVES MANKIND

DROPPED PLY

IT ISN'T POSSIBLE ON THE

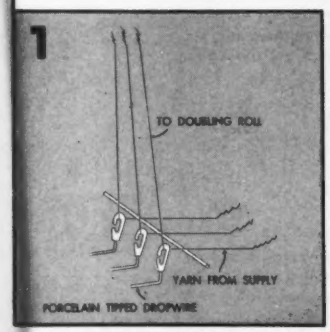


FOSTER MODEL 57 DOUBLER

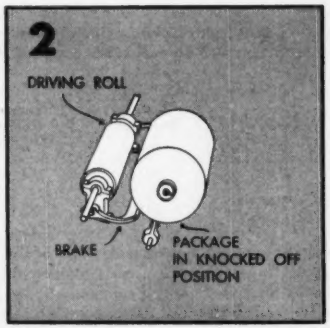
Each end drawn from bobbins or cones on the FOSTER MODEL 57 DOUBLER runs from the supply through a dropwire before reaching the doubling roll (see Figure 1). When supply from one cone or bobbin runs out, or when an end breaks, this dropwire falls and causes brake (see Figure 2) to stop package immediately. This prevents broken or run out end from reaching package (see Figure 3) and permits quick, easy single end piecing.

Note that the instantaneous acting brake comes up under the package and contacts it along the full length. This means quicker stops without damage to yarn. The dropwire brake action is only one feature of the Model 57. Here are some others:

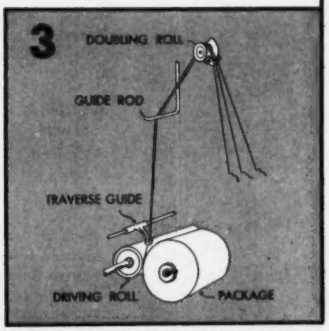
1. Machine may be equipped for one or two process doubling — direct from bobbins through slub catcher attachments, or from cones previously wound and inspected on FOSTER MODEL 102.
2. Guard prevents thread jumping off doubling rolls.
3. Minimum yarn strain by reducing number of sharp yarn bends.
4. Self-threading tension and slub catcher (when required) expedites quick threading and yarn inspection.



QUICK-ACTING STOP MOTION, with efficient brake, leaves sufficient yarn for single end piecing when supply runs out.



EFFICIENT BRAKE comes up under package and contacts the full length of tube. No adjustments, no parts to wear.



SHARP BENDS IN THREAD LINE ELIMINATED. Ends go from doubling roll to the Traverse Guide in back of package without any sharp bends. Minimum strain on yarn.

BULLETIN A-90 ON REQUEST

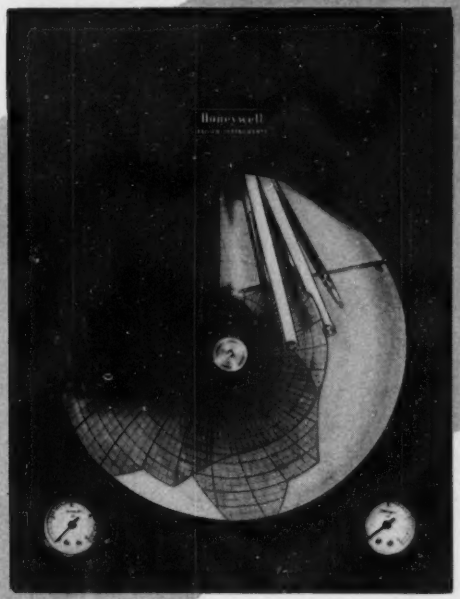
FOSTER MACHINE CO., Westfield, Mass., U.S.A.

SOUTHERN OFFICE: Johnston Building, Charlotte, North Carolina • CANADIAN REPRESENTATIVE: Ross Whitehead & Co. Ltd., 1475 Mountain St., Montreal, Que. • EUROPEAN REPRESENTATIVE: Muschamp Taylor Ltd., Manchester, England

BROWN INSTRUMENTATION IS KEYED TO THE NEED OF EVERY TEXTILE PROCESS

NOW...

SINGLE OR DUAL CAM PROGRAMMING IN ONE INSTRUMENT!



HERE'S an instrument designed to save space and reduce instrument investment. From this single instrument it is now possible to obtain the same control that heretofore required two pneumatic control thermometers and two pneumatic time-pattern transmitters.

Particularly applicable to the control of piece dyeing and size cooking, or similar batch processes, this new Brown thermometer performs three separate functions from one case, *from one panel location*. Featuring integral cam programming of process time vs. temperature, it (1) measures and records the variable, (2) automatically positions the set point index, and (3) automatically controls the variable.

You get more compact control to save space, more accurate control to increase uniformity, more dependable control to raise production efficiency. Check the list of outstanding advantages . . . write for a copy of Catalog No. 6020 . . . call in our local engineering representative for a discussion of your application.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4492 Wayne Ave., Philadelphia 44, Pa.

Check These
OUTSTANDING ADVANTAGES!

- √ *Requires less panel space.*
- √ *Controls one or two processes from one location.*
- √ *Affords electric or pneumatic control.*
- √ *Provides independent chart and cam drives.*
- √ *Permits change in cam speed, ½ to 24 hours per revolution.*
- √ *Available with single pen, single cam; two pen, single cam; single pen, dual cam; two pen, dual cam.*
- √ *Visual or audible signals are optional . . . are operated by separate contacts which are adjustable throughout time range and may be used to interrupt cam travel or shut down process.*

MINNEAPOLIS **Honeywell**

Brown Instruments

INTERCHEMICAL

Your Most Logical Source
for the Finest Textile

Colors

INTERCHEMICAL CORPORATION

Textile Colors Division

Rock Hill, S. C. Hawthorne, N. J. Pawtucket, R. I.

In Daylight or Lamplight

THE SHADE STAYS THE SAME

With Selected Interchem Acetate Dyes

Why run the risk of having fabrics returned because the shades change in artificial light! Interchemical technicians developed a series of color combinations to give you minimum shade change in different lights. They're well suited for all-acetate fabrics and help solve the complex problems in dyeing wool and acetate blends.

These special combinations of Interchem Acetate Dyes are another reason why Interchemical is your most logical source of supply for the finest textile colors. They provide good all-round fastness for men's wear, women's wear, carpets and draperies. Write for full details today.

Aridye PIGMENT COLORS Reg. U.S. Pat. Off.

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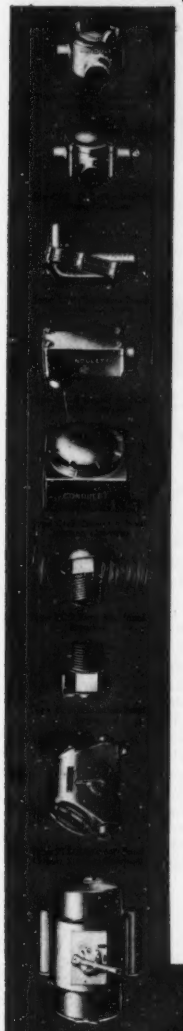
ESTABLISHED 1840

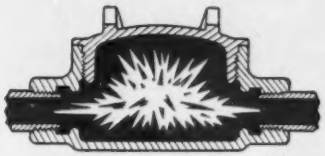
Explosion-Proof CONDULETS*

give you PROTECTION where flammable atmospheres are present or likely to be present



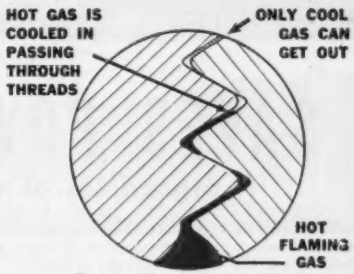
... because every explosion-proof CONDULET ...

1 Withstands the force of an internal explosion



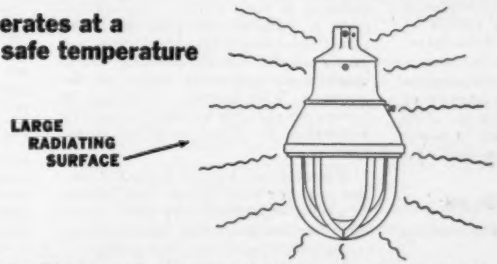
2 Has flametight joints

Sectional View of Flat Joint



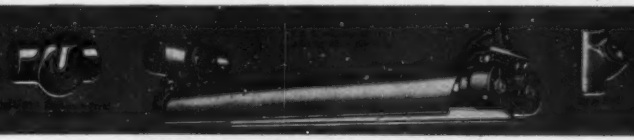
Sectional View of Threaded Joint

3 Operates at a safe temperature



All Crouse-Hinds explosion-proof electrical equipment is built to exceed Underwriters' Laboratories requirements.

Thousands of explosion-proof and dust-tight CONDULETS are listed in Crouse-Hinds CONDULET Catalog.



A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY

Syracuse 1, N. Y.

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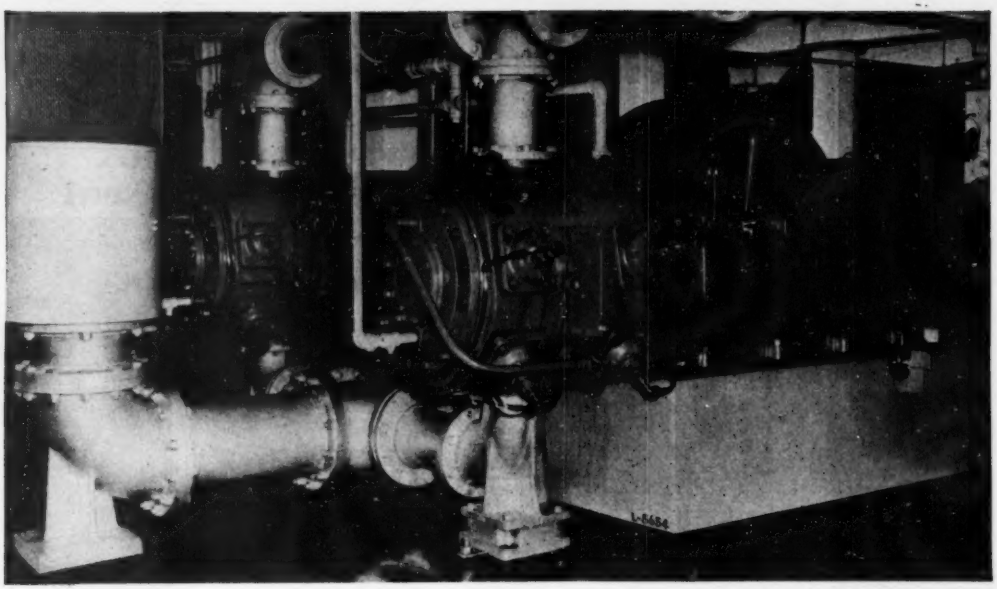
CROUSE-HINDS COMPANY OF CANADA, LTD., TORONTO, ONT.

*CONDULETS are made only by CROUSE-HINDS

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS



Worthington DC air compressor.
Piping installed by American Moistening Company.

IT SAVES POWER COSTS

regardless of weather!

This air compressor takes it easy on the motor whenever favorable humidity conditions lessen the demand on the humidification system.

It's a Worthington DC air compressor—part of a humidification system at Berkshire Fine Spinning Associates' Albion, R. I. mill.

Five-step capacity control matches air capacity to the varying amounts of water required by the system. This means a substantial reduction in power consumption when the compressor runs at partial load.

Accurate to within 1½ psi

So sensitive is the capacity control that it—*holds air pressure within a maximum variation of 1½ psi throughout five different steps of control!*

Worthington's 5-step capacity control governor is exceptionally sensitive because it performs *only pilot duty*. The actual unloading is done electrically and pneumatically. But the pumping rate is continuously under the *control* of the governor. With increase or decrease in system pressure, the governor causes the compressor to reload or unload in sequence.

Worthington's by-pass method of control not only saves power (particularly at partial capacities), but also reduces operating temperatures, thereby eliminating valve difficulties from carbon deposits, improving lubrication, and reducing cylinder wear.

Like Father . . . Like Son

This 17 x 22 DC air compressor, running 24 hours a day, 5½ days a week, has now been operating 1¼ years without a sign of trouble. It replaced a smaller-capacity Worthington air compressor which operated satisfactorily for 35 years and is still used as stand-by.

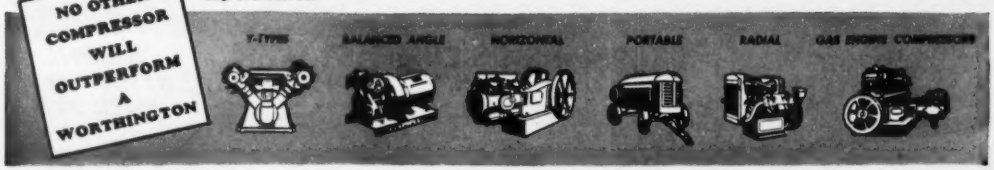
For steady reliable compressed air, always specify Worthington. For more proof there's *more worth in Worthington*, write for Bulletin L-675-B1B to Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, N. Y.

WORTHINGTON

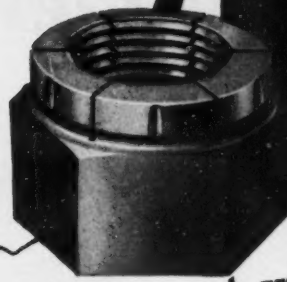
NO OTHER COMPRESSOR WILL OUTPERFORM A WORTHINGTON

*Reg. U. S. Pat. Off.

K.1.7



Why FLEXLOC SELF-LOCKING NUTS



"This nut will take the place of the two regular nuts and the washer that is now on this piece."

(Part of a letter from a Connecticut distributor.)

...simplify assembly

You can readily see why FLEXLOCs simplify assembly when you read the above excerpt from our distributor's letter. From comments like this we feel sure there must be hundreds of similar cases where FLEXLOC Self-Locking Nuts can be used to advantage.

FLEXLOCs offer these features: *one-piece, all-metal construction* — nothing to work loose or forget, no serious temperature problems; *resilient, automatic locking sections,* processed by our patented method to make possible FLEXLOCs' closely controlled torques; PLUS the fact that the most chattering vibration won't loosen FLEXLOCs, even after many applications.

Why not convince yourself with actual samples? Tell us what size you want and you'll receive them promptly, together with our latest literature.

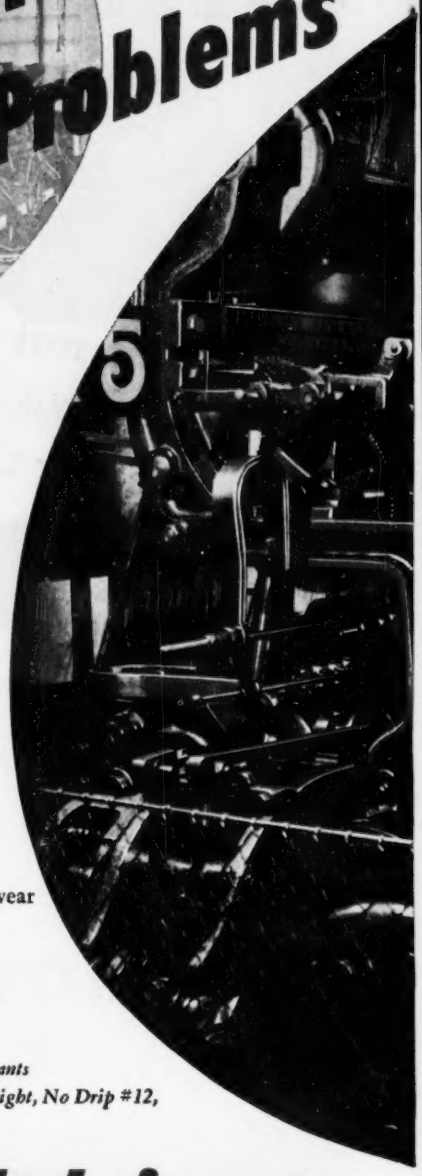
FLEXLOC Self-Locking Nut, "regular" type.

FLEXLOC Self-Locking Nut, "thin" type.

FLEXLOC Self-Locking Nut, external wrenching type.

SPS

Fieldcrest Mill Cuts Wear, Ends Lubrication Problems



In Zion, Ill., Fieldcrest Mills, a Division of Marshall Field & Co., makes fine lace curtains and table cloths in cotton, nylon and orlon. Their lace weaving machines came from Nottingham, England, some as much as 50 years ago. With parts replacements so hard, if not impossible, to get, Fieldcrest felt it vital to get the finest possible lubrication protection.

The mill invited Sinclair engineers to study its problems. Sinclair drew up a complete lubrication program, calling for several specialized Sinclair textile lubricants.

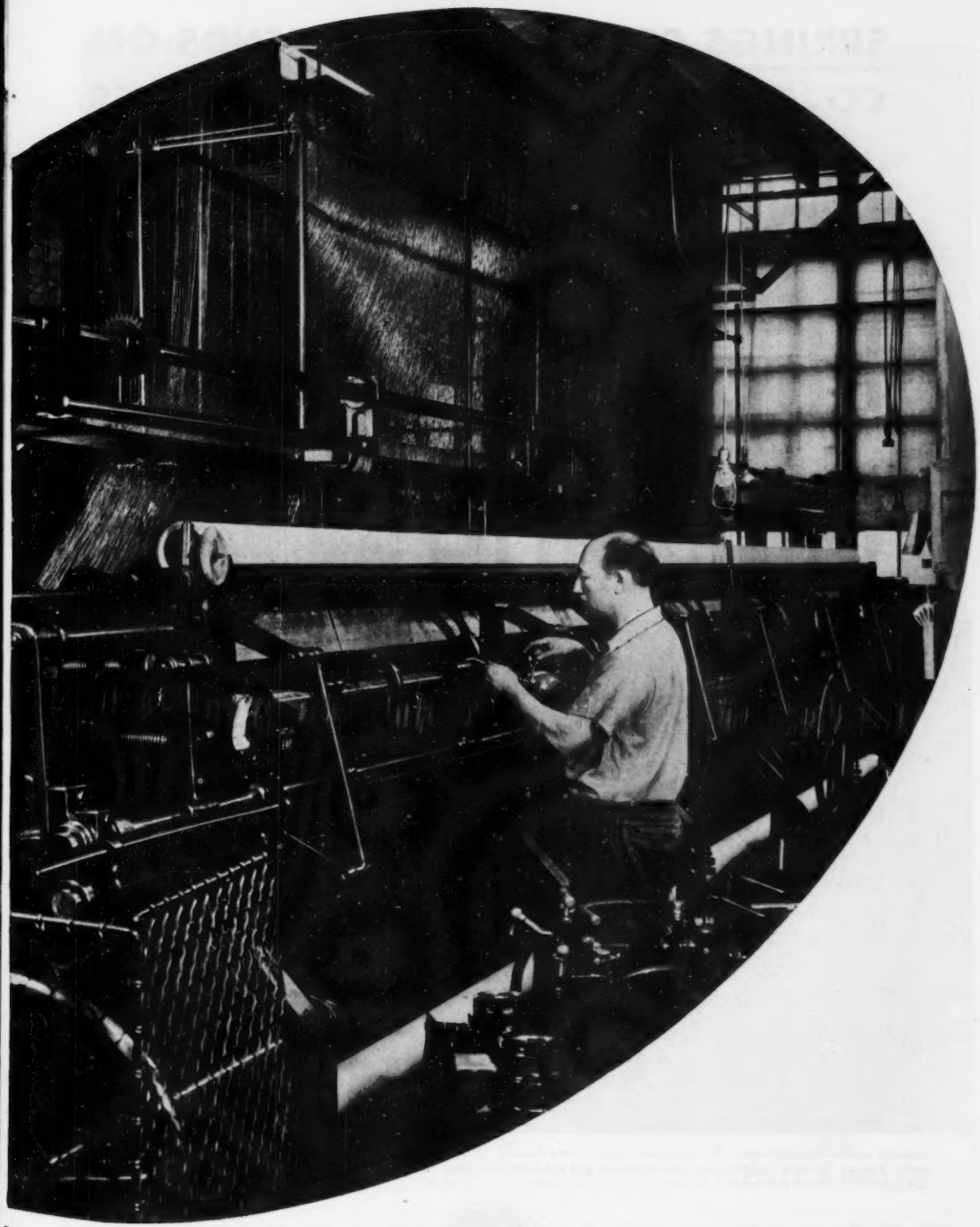
Fieldcrest followed this program to the letter. It now reports the lubrication has materially cut wear on the weaving machines and reduced breakdowns and related headaches in the bleaching and finishing rooms. Hook wear and burning in the sewing machines are no longer a problem.

Perhaps Sinclair engineers and Sinclair lubricants can help cut wear and replacements in *your* mill. Why not investigate?

A lace weaving machine in Fieldcrest Mills, where Sinclair Lubricants are saving wear. Lubricants include Lily White Oil C, Valve Oil Light, No Drip #12, Bearing Grease AF #1, Shamrock® F, Rubilene® Light.

Sinclair Textile Lubricants

FOR LUBRICATION COUNSEL, SEE YOUR NEAREST SINCLAIR REPRESENTATIVE OR WRITE TO SINCLAIR REFINING

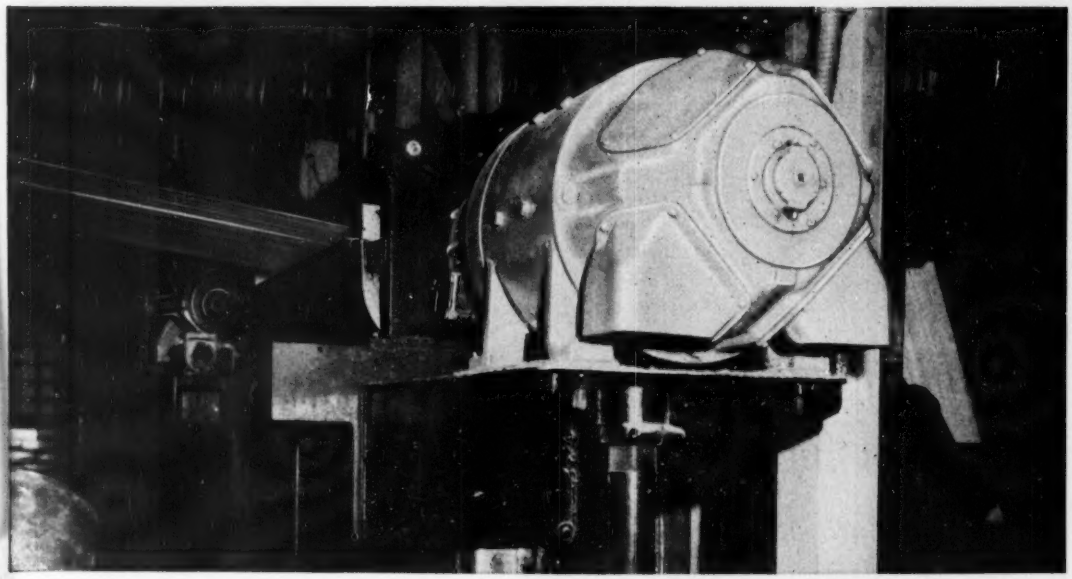


save wear, replacements

COMPANY, 600 FIFTH AVENUE, NEW YORK 20, N. Y.

SPRINGS COTTON MILLS DEPENDS ON CO-ORDINATED G-E RANGE DRIVES

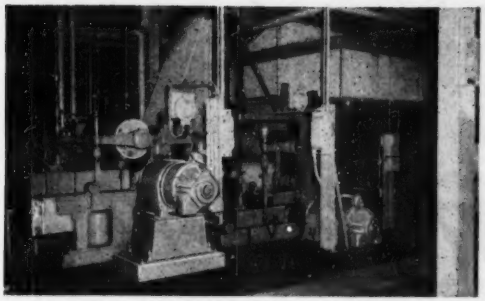
For Continuous High-Speed Finishing!



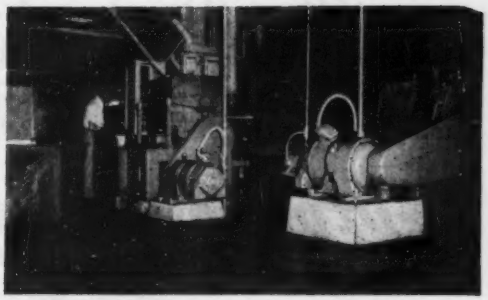
Singeing and De-Sizing Range at this bleachery comprises two 50-inch units driven by 15-hp G-E gear-motors (shown above) and a 110-inch unit driven by a 25-hp G-E motor. G-E motors also drive four pilers and three folders. Selection, manufacture, and delivery of all G-E equipment for this modern, high-output mill was co-ordinated by General Electric.

GENERAL ELECTRIC

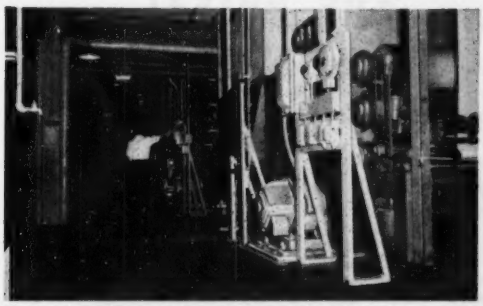
654-19



Mercerizing Range, (above) includes a 50-inch 2-roll water mangle and a 50-inch 15-ton 3-roll caustic padder powered by G-E gear-motors rated 20 and 25 hp. Other G-E motors run scutcher, tenter frame, washer and piler. By making it an all G-E plant, Springs Cotton Mills simplified ordering, saved time and effort otherwise required by piece-meal purchasing.



Rope Bleaching Range, one of three at Grace Bleachery, uses G-E motors throughout. Photo shows the tight rope hot washer and the tight rope squeezer connected to G-E 25-hp and 20-hp gear-motors. All G-E motors used in this plant were co-ordinated by G-E application engineers to assure an efficient smooth-working installation.



Finishing Range is one of six at this Springs Cotton Mills plant equipped with G-E motors throughout. Shown here are the scutcher, 3-roll water mangle, 10-can dryer, 2-roll starch mangle, 20-can dryer and 90-foot enclosed tenter frame. When the mill was completed at end of 1948, start-up time was minimized by G-E field-service engineers who checked initial operation.

Continuous Dyeing Range, with individual Williams units driven by G-E 7½-hp gear-motors, provides a range of cloth speeds from 37½ yards to 150 yards per minute, as well as threading speeds of 10 to 15 yards per minute. Like hundreds of other companies, Springs Cotton Mills finds it pays off to place full responsibility for electric equipment needs on General Electric.

Over 300 G-E motors in Grace Bleachery, South Carolina, help process 6 million yards of grey goods per week!

Quickly summarized, here are some advantages General Electric range drives can offer you—advantages that add up to efficient range operation, continuous high-speed finishing:

You get any desired speed range and jogging speed, easy control of over-all speed from a central point, and close speed co-ordination for all motors by means of compensating gates or "soft" motors. Flexibility of operation is assured, with individual units easily disconnected from the range. If required, you can have dynamic braking for quick stopping and regenerative braking for controlled deceleration. And you can count on top reliability and low maintenance, with a simple, sturdy G-E gear-motor at each drive unit.

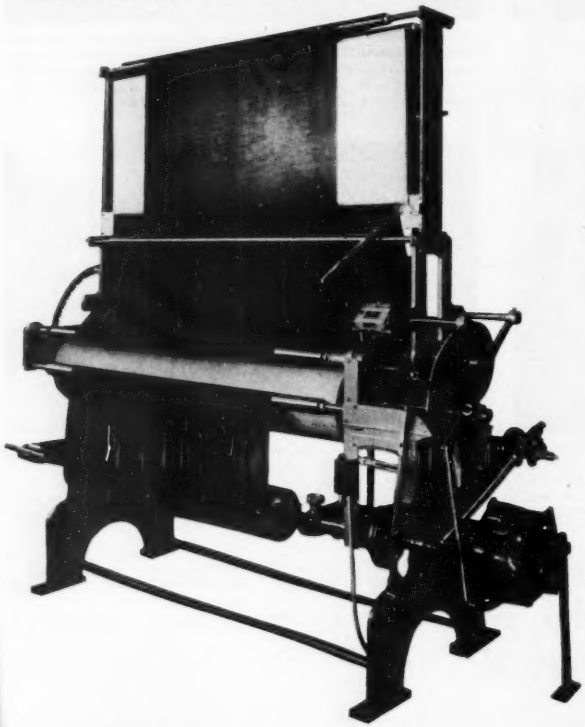
Here's more! G-E range drives are now also available in packaged form to give you the additional advantages of lower installed cost, simplified installation, and new ease of making changes in your plant layout.

Take a tip from Springs Cotton Mills. Save yourself time and trouble in modernizing or expanding any mill process by letting General Electric co-ordinate all your electric equipment needs. Ask your G-E textile-mill specialist to tell you the whole story on G-E range drives, as well as drives for any other textile-mill application. *General Electric Co., Schenectady 5, N.Y.*

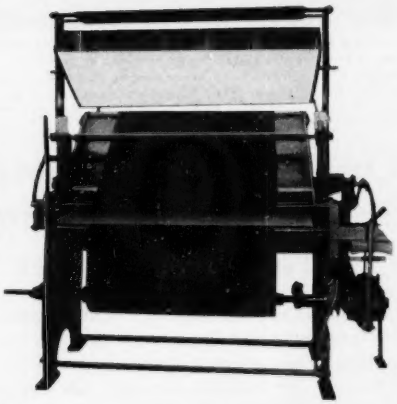
RANGE DRIVES FOR TEXTILE MILLS

Before you modernize or expand your textile mill, see "Textiles Unlimited," General Electric's "More Power to America" full-color sound movie. A helpful, half-hour film, it shows how other textile mills are modernizing with profit, will give you at least 40 specific ideas on improving quality and cutting costs. Ask your G-E representative to arrange a showing.

EVERYBODY WANTS TO SEE!



The Latest HINNEKENS EXAMINER



With all these improvements:

- ★ **Constant cloth speed**
- ★ **Positive light-screening inspection for gray goods**
- ★ **Shadow-free fluorescent illumination for finished goods**
- ★ **Automatic piece ticket stamping mechanism**

Available for your fall production requirements, the new Hinnekens Examiner can be ordered through the representative serving your area.

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HINNEKENS MACHINE CO., INC.
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THE HINNEKENS MACHINE CO. INC. HM PATERSON N.J.

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What does comfort mean to a machine?

Just what it means to you and me. Because like you and me, machines don't like to run hot and cold. They like uniform temperatures.

Just like your fibers need uniform humidity. But an evap cooling system can't hope to control temperatures. And shifting temperatures knock machines out of adjustment.

You know how metal expands when it gets hot. So as temperatures mount . . . so do your troubles. But they needn't. All you've got to do is control your temperature. And all that takes is chilled water running into your air washer.

Then your machines are always comfortable. You don't waste labor and productive hours trying to keep them in adjustment.

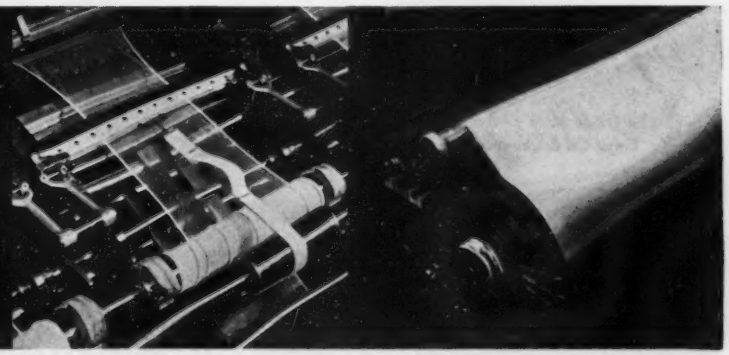
Synthetic yarns are easier to handle. Knit better. Weave better.

And employees feel better, do a better job.

Whatever your present system is, we can add refrigeration to it. Ask your Carrier representative to tell you about it. Carrier Corporation, Syracuse 1, N. Y.

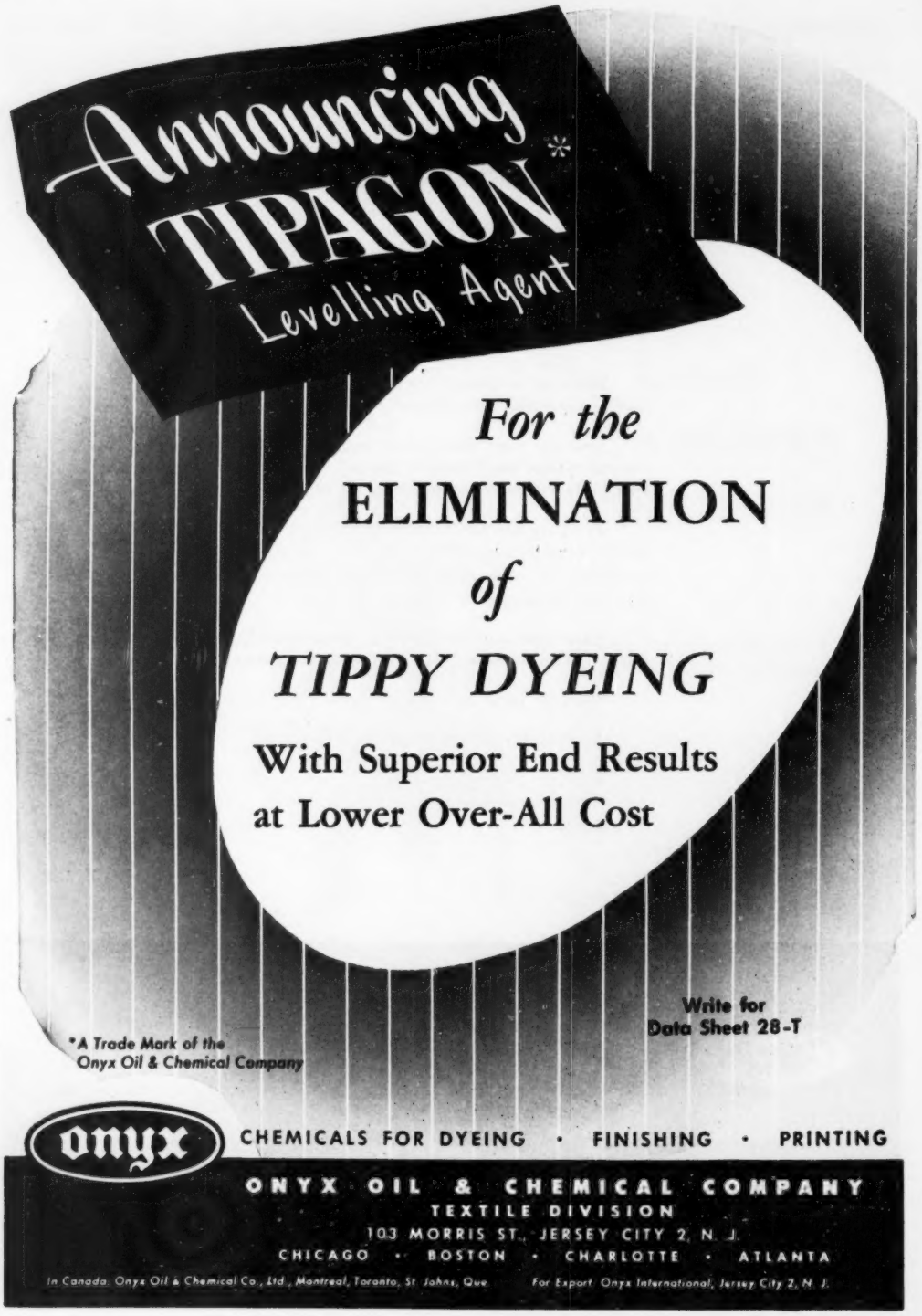
Carrier

AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



KNITTING Controlled atmosphere assures more uniform lengths of hosiery and more firsts with less mending and less adjusting of machines.

WEAVING Higher weave room efficiency comes from uniform temperature and humidity. Fewer seconds, much less fixing and more looms tended per weaver.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TIPAGON*
Levelling Agent
For the
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TIPPY DYEING
With Superior End Results
at Lower Over-All Cost
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masterpieces of knitting with **TORRINGTON needles**

Quality knitting reflects the quality of the needles you use. And whatever type of knitting you do, there's a Torrington Needle to help you produce quality merchandise.

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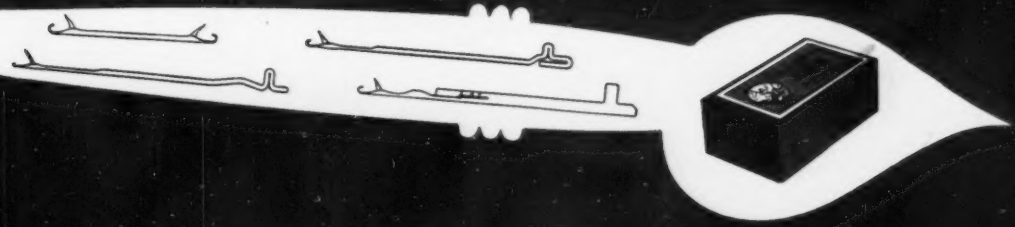
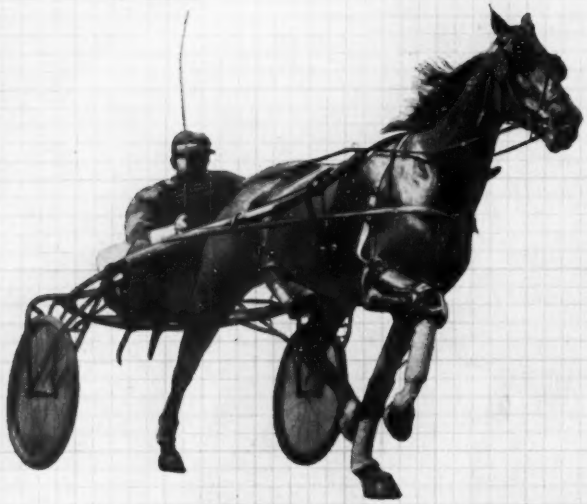
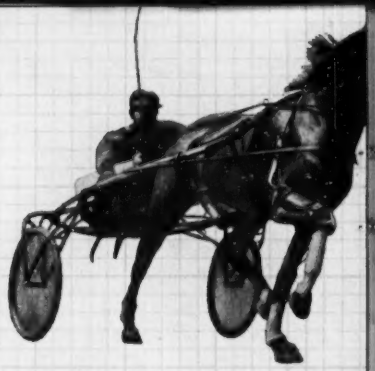


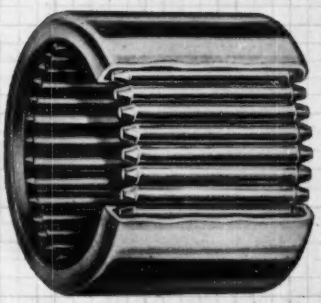




thoroughbreds...
for high speed operation

Torrington Needle Bearings are ideally suited for a wide range of operating speeds—5,000...10,000...15,000 rpm and higher. These smooth-running bearings—equally efficient for rotating or oscillating applications—have low coefficients of starting and running friction. Thus, power requirements are reduced.

Other Needle Bearing advantages—high radial load capacity, light weight and compact size—aid in simplifying design as well as increasing efficiency. Why not get full details in terms of your own product? Write today.



THE TORRINGTON COMPANY
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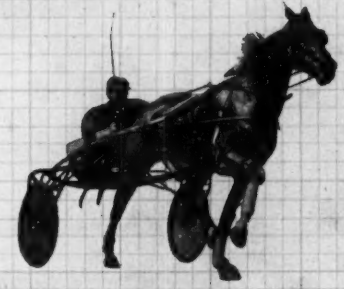
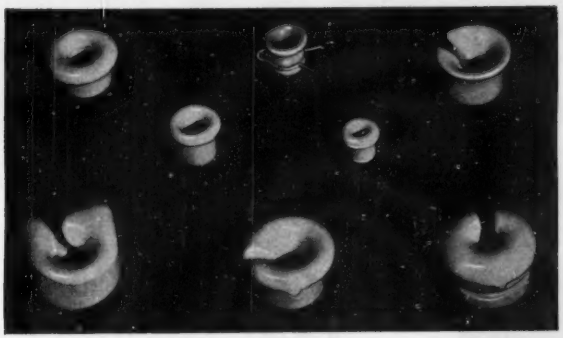


TORRINGTON *NEEDLE* BEARINGS

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

MITCHELL-BISSELL THREAD GUIDES

For Every Textile Service ...For More Than 70 Years



Above—"BLUE SATIN FINISH" PORCELAIN GUIDES.

An exclusive development of Mitchell-Bissell—guides with this finish are more resistant to thread wear than any glazed porcelain guides ever offered the industry. "Blue Satin Finish" Guides, instead of being shiny and glass-like, have a surface of thousands of small rounded grains closely packed together. Reduced wear and longer guide life result because, by breaking the continuity of contact between yarn and guide, friction is reduced. *U. S. Pat. No. 2,152,136.

Left—WHITE GLAZED PORCELAIN GUIDES.

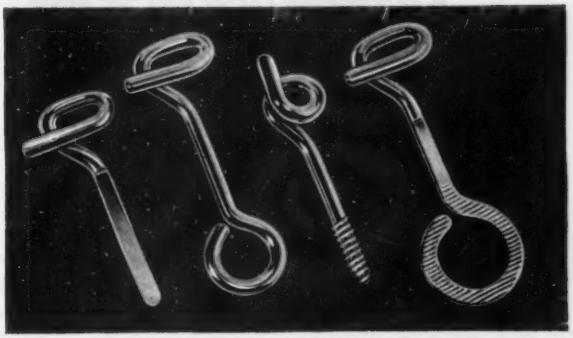
The Mitchell-Bissell Company originated the use of porcelain as a thread guide for the textile industry. The white Glazed Porcelain Guides shown here are representative of thousands of patterns that have been sold to all branches of the textile industry since this company was founded over seventy years ago. Improved in quality from time to time they are still "Standard."

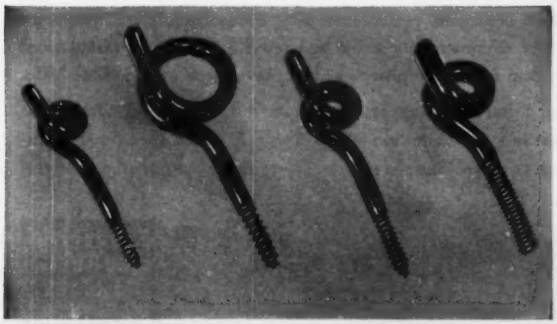
Right—CHROMIUM PLATED STEEL GUIDES.

The plating on Mitchell-Bissell Chromium Plated Steel Guides is harder and denser than on any other wire guides. Our methods of fabricating and polishing develop a surface smoothness, with a mirror finish far beyond usual commercial standards. Because of their superior resistance to thread wear these guides are used extensively on machinery for processing rayon and nylon yarns and also for many other severe applications.

Below—ENAMELED IRON GUIDES.

Where wire guides are desired, and service conditions do not require chromium-plated guides, our Enameled Iron Guides give exceptionally good service, with a low initial cost. Made with the care and craftsmanship that are standard practice on all Mitchell-Bissell products, these are recommended as centering and ballooning guides, and for cotton, woolen and other soft yarns.





TRENTON, N. J.

Southern Representative: R. E. L. Holt, Jr. & Associates
Greensboro, N. C.

H&B CASABLANCAS S-3

A New Spinning System for Synthetic Fibres!

Another H&B Exclusive

During the past few years, H & B American Machine Company has devoted much of its research and development work to the improvement of high draft spinning. In this, as sole American licensee for the Casablancas High Draft Co. Ltd. of Manchester, H & B has had the advantage of full and exclusive use of all Casablancas developments. From these joint facilities, H & B presented the new H & B Casablancas Hi-Draft System for cotton spinning.

Now, H & B proudly presents the H & B Casablancas S-3 System *for synthetic fibres.* Commercially tested and proven, major mill installations of the S-3 System are now in process at J. P. Stevens and at Woodside Mills.

Offering a drafting range of from 14" to 40", the H & B Casablancas S-3 System utilizes a combination of apron length, tensor opening and platform position to assure complete fibre control, regardless of staple length.

Our nearest sales office will arrange a demonstration of this system at your request.

H&B AMERICAN MACHINE CO.

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Builders of MODERN TEXTILE MACHINERY

HOW TO SAVE MONEY ON SMALL-VOLUME BLEACHING

get increased uniformity . . . faster bleaching . . . lower bleaching costs

By Du Pont Continuous Peroxide Bleaching with the Butterworth "Junior" Unit

If your requirements call for a production capacity of 500 to 1,000 lbs. per hour, the Butterworth-Du Pont "Junior" Continuous Peroxide Bleaching Unit can give you the same low-cost, high-quality results that are possible with full-scale ranges.

This job-tested, space-saving bleaching system has been designed expressly for small-scale and specialty work. It is particularly suited for use in the following types of plants:

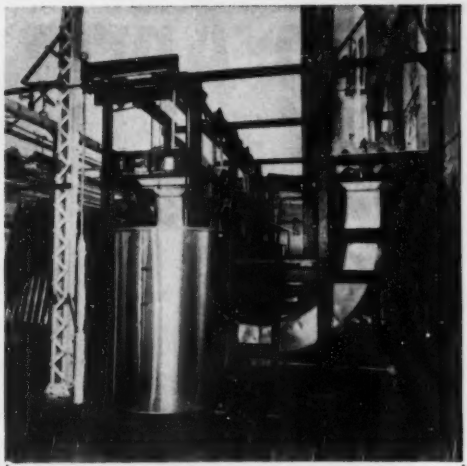
1. Small bleacheries and mills producing 100,000-300,000 yards per week of white goods, goods for dyeing and printing, colored yarn shirtings and fancy dress goods, or any combination thereof, in the 3-7 yds./lb. class.

2. Large bleacheries which have small lots (100,000-300,000 yds./week) of specialty fabrics which are not run in the regular continuous system because they are too small.

3. Mills processing tubular cotton knit goods.

Mills using the Butterworth-Du Pont "Junior" Unit have realized direct savings in money paid out for steam, chemicals, and operating costs. And this controlled process gives uniform bleaching, keeps fabrics strong, eliminates rehandling and most "seconds."

Du Pont does not build or sell bleaching equipment, but our Technical Servicemen are always ready to help you . . . in analyzing your needs, laying out a system, training personnel and starting operations. Find out more about continuous peroxide bleaching by mailing the coupon below today.



This two-stage Butterworth-Du Pont "Junior" Unit at Kerriglen Finishing Company, Providence, Rhode Island, has been in regular operation since May, 1950.

Archie Stevenson, President of Kerriglen, writes:

"Our 'Junior' Bleaching Range is producing between 3500 and 4000 yards per hour of 80 x 80 cotton print cloth suitably bleached for our printing process. Through use of the unit, there has been an appreciable saving in bleaching costs.

"The bleached cloth is extremely uniform and the full strength of the cloth is apparently retained."

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.

Please send me more information about Du Pont Continuous Peroxide Bleaching Systems.

Name_____ Title_____

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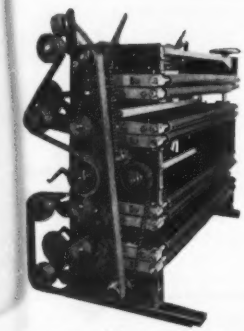
What's So "DIFFERENT" About Bull Dog Rub Aprons?



Illustrated above is a typical application of Bull Dog Rub Aprons in a leading manufacturer's Card Condenser.

Boss carders who have actually used Bull Dog Card Condenser Rub Aprons can probably give you the best answer to this question, in terms of dramatic results.

They will tell you, for instance, that because Bull Dog Rub Aprons are made of a specially formulated patented synthetic material, they are stronger than other types of rub aprons . . . and last much longer.

Bull Dogs permit increased card condenser production up to 25% or more. They increase jack-spool capacity 40-50% by weight, resulting in lower handling charges and longer runs. Roving is firmer and denser. End breakage is cut to a minimum.

These same users will tell you that they are getting longer machine life and lower maintenance costs . . . because Bull Dog Aprons can be run up to 30% slower where only ordinary rubbing is required.

And they will tell you about Bull Dog's patented end construction with enlarged rivet brads which securely anchor the buttons to the apron end . . . as many buttons as you want . . . spaced just as you want them spaced.

These are by no means all of the advantages obtainable with Bull Dog Rub Aprons. Which brings up the point that you deserve to know the full story and all the facts.

Contact your local distributor, or write direct . . . *today*.

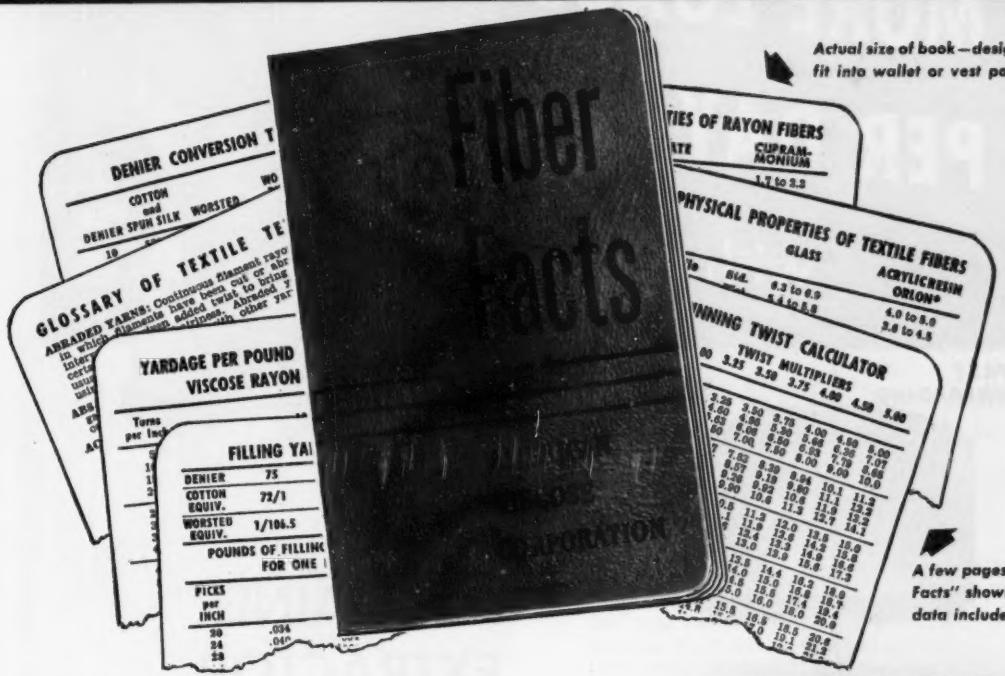
BWH
DEPENDABLE RUGGEDNESS

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Distributors in all Principal Cities

PLANT: CAMBRIDGE, MASS. • P. O. BOX 1071, BOSTON 3, MASS., U. S. A.



Actual size of book—designed to fit into wallet or vest pocket.

A few pages from "Fib Facts" showing range data included.

Vest pocket handbook now made available to textile executives

First of its kind—Fills long-felt need

For sometime there has been a decided need in the textile industry for a concise pocket handbook for ready reference on the job. To fill the gap Avisco has distilled essentials from the many, more bulky technical works now available . . . given them an attractive, readable format and presents them as "Fiber Facts."

This small book provides a means of keeping essential facts always at hand. Its 44 information packed pages contain not only data on Avisco and its products, but also comprehensive tables on such subjects as physical properties of rayon and other synthetic fibers, denier conversion, spinning twist calculation, and yarn requirements. In addition to a short atlas section, the contents include a glossary of textile terms, a bibliography of rayon publications, a calendar and space for making memoranda.

Avisco has limited quantities of this useful handbook for distribution to the textile industry. Write on your firm's letterhead for your copy.

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To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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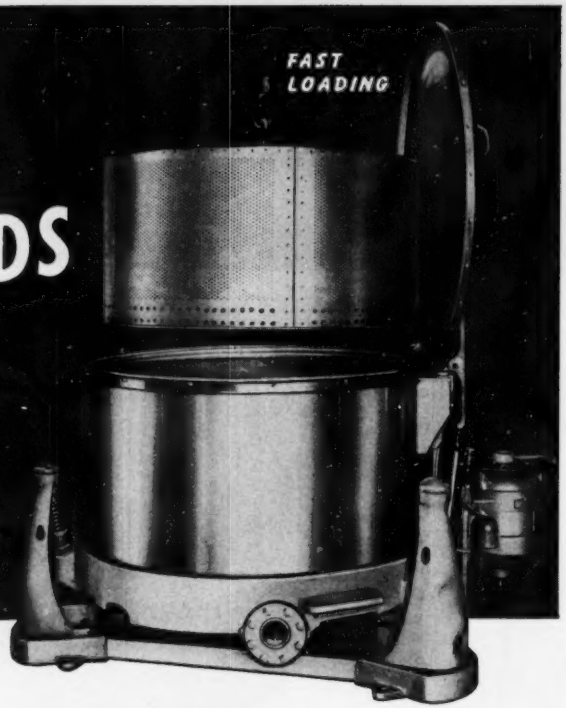
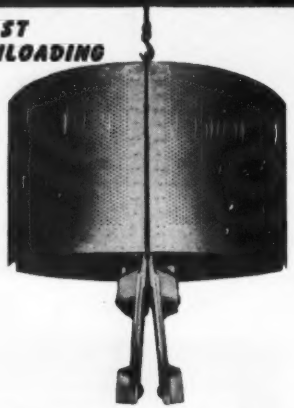
EXTRACT MORE LOADS PER DAY with the





Fletcher "TWINTAINER" EXTRACTOR

The twin semi-circular container-trucks are loaded and unloaded away from the extractor so the extractor can be "kept on the go." With the use of one or more extra sets of container-trucks, one may be loaded or unloaded while the other is spinning. This makes it possible for one man with two "Twintainers" actually to handle as much work as three men with six 48" regular extractors.

The bottom-opening gravity discharge is not only faster, but is easier on the contents, eliminating any pulling or tearing. It will pay you to investigate the Fletcher "Twintainer".

Two sizes are available . . . 50" and 54". Both with speed of 750 rpm.

Full details are in our Bulletin 74 . . . write for a copy.

Look at these Features:

1. Twin Container-Trucks, stainless steel, with bottom unloading.
2. Automatic Air Brake and Timer.
3. "Finger Tip" Control on separate stand—no push, no pull, no stoop, no strain.
4. "Long Swing" Self-Balancing, with Adjustable Springs.
5. Stainless Steel Curb, heavy gauge and polished.
6. Stainless Steel Safety Cover, with air-operated automatic opening and closing.
7. Close-coupled Motor—less floor space, easier balancing.

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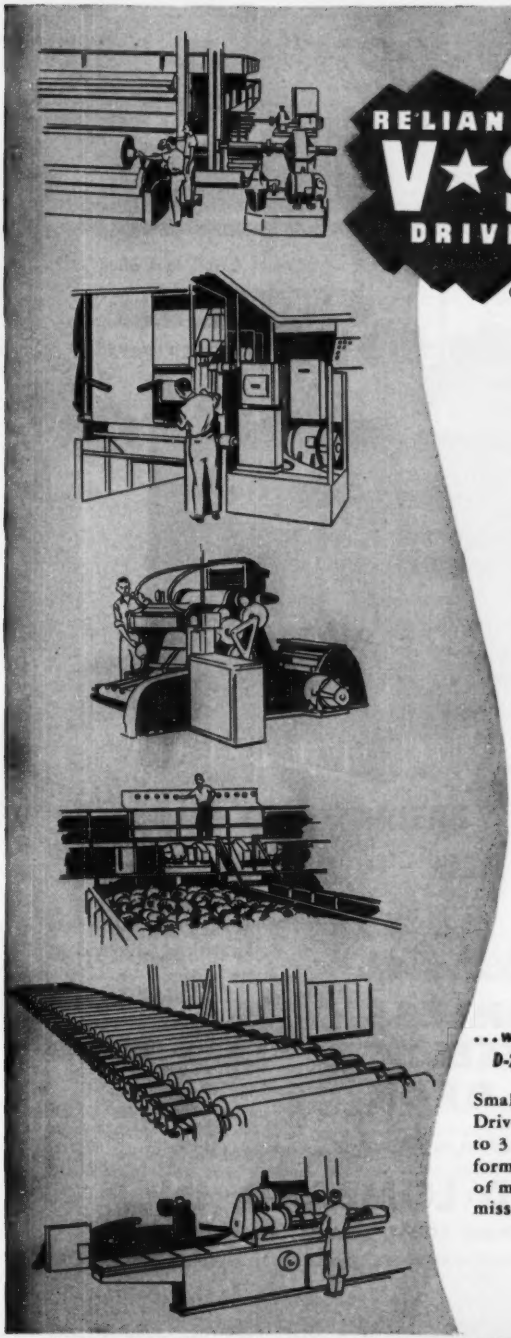

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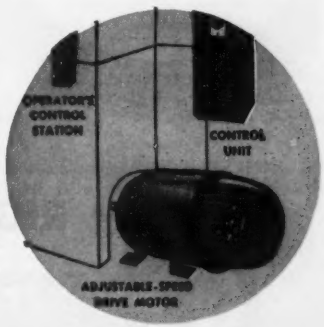
JOGGING, INCHING, CREEPING without slipping clutches!

...from A-c. Circuits

Call your nearest Reliance Application Engineer or write today for Bulletin 311 (V★S Drives through 200 horsepower).

...write also for Bulletin D-2101 describing the

Smaller Reliance V★S Drive, in sizes from 3/4 to 3 horsepower. Performs all the functions of mechanical transmissions—electrically!



RELIANCE ELECTRIC AND ENGINEERING CO.

1085 Ivanhoe Road, Cleveland 10, Ohio • Sales Representatives in Principal Cities

HIGHLIGHTS of a MODERN DYE BECK

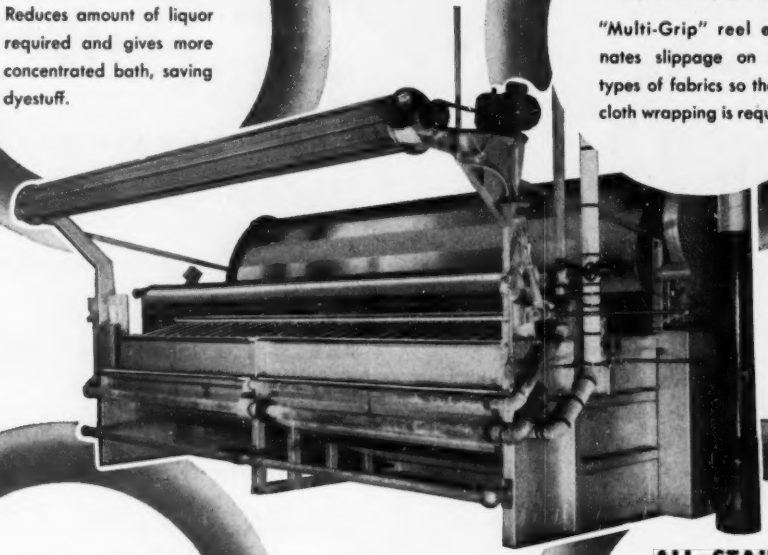
BETTER DYE LIQUOR RATIO

Reduces amount of liquor required and gives more concentrated bath, saving dyestuff.

DRUM TYPE REEL

(optional equipment)

"Multi-Grip" reel eliminates slippage on most types of fabrics so that no cloth wrapping is required.



ROUND BOTTOM

Minimizes tangles and tie-ups, promotes free ballooning of cloth and reduces tension to a minimum.

ALL STAINLESS STEEL

Large capacity (up to 40 strings), all stainless steel tub makes for quick color changes, high volume production and long machine life.

"The Fleet Line"

STAINLESS STEEL DYE BECK

Further information on Request

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"The Fleet Line" — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

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The MOST EFFICIENT Equipment

FOR DYEING

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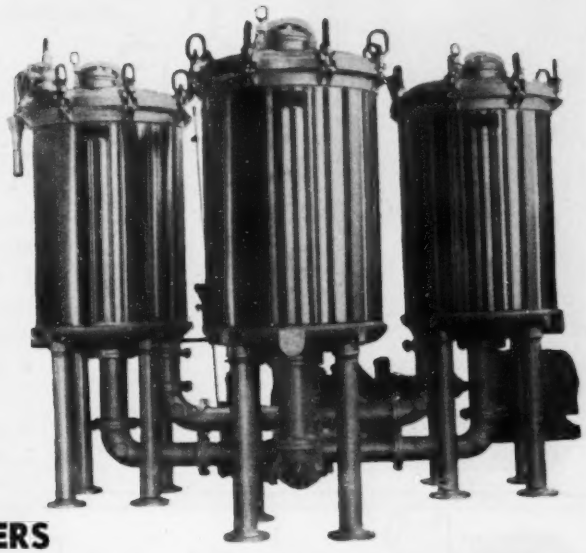

BEAMS OR CARRIERS

AT THE SAME TIME — IN THE SAME BATH

Dyehouses now using Gaston County multiple-kier dyeing machines for 30 years recommend them for (1) uniform dyeing results, (2) simplicity of operation, (3) flexibility, (4) economy.

Uniformity — From 1 to 6 beams or package carriers are dyed at the same time, same dye-bath, same conditions of temperature, pressure and flow, thus giving *absolute uniformity and evenness of shade.*

Simplicity — All kiers are operated from one circulating pump. No block-off drums are necessary, since each kier can be cut off from other kiers by valves. Control features include manual or automatic dye-liquor flow control . . . and the new electronic DYNAMASTER controls — unprecedented for accuracy, sensitivity, and simplicity of operation.

Flexibility — Multiple-kier set-ups may be easily rearranged into *new* combinations, to meet any change in production requirements. Machines are available for practically any size or design of carrier.

Economy — To save dyestuffs, the alteration in dye liquor ratio for any number of beams or carriers is held to a minimum. Operating kiers are positively blocked away from kiers not in use.

Write us, or ask our representative to explain fully the advantages of a Gaston County multiple-kier set-up.

GASTON COUNTY

GASTON COUNTY DYEING MACHINE CO.

Pioneers in Automatically Controlled Dyeing Machines

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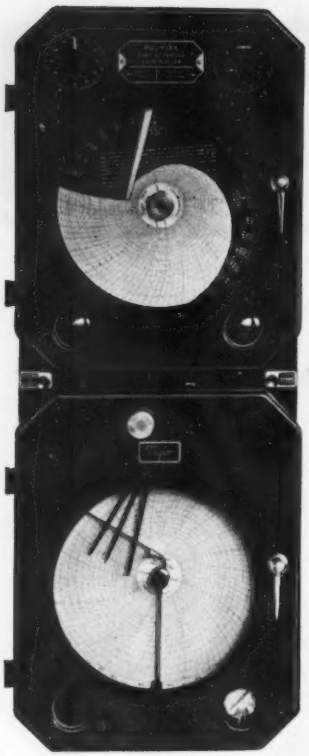


PUSH THIS BUTTON...

and Get Better Dyeing at Lower Cost!

YOU can save money on any kind of dyeing and get more uniform dyeing every time, with Taylor's automatic FULFLEX* Time Schedule Recording Controller.

1. No Cams to Cut. Operator simply sets three dials for *any* rate of rise, hold temperature and hold time.

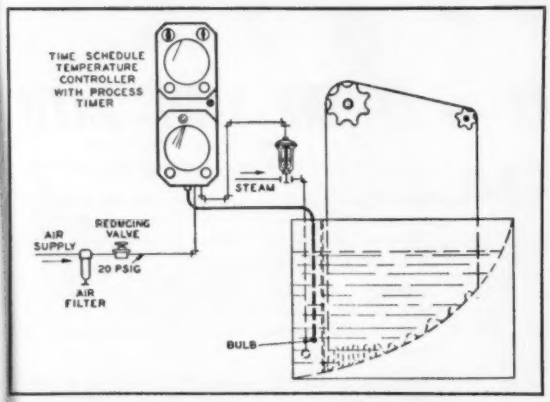
2. Operator just presses the button and Taylor Control signal light tells him when cycle is completed.

3. Repeats any part of the cycle. For additional rise and hold periods, if required, operator simply resets dials and presses the start button again.

4. Controlled rate of cooling is available as an optional feature.

This is just a single example of how Taylor is cutting costs, and improving product for textile mills all over the country. For the whole story, write for BULLETIN 98199, Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow, liquid level, load, speed and density. *Trade-Mark



TAYLOR INSTRUMENTS MEAN ACCURACY FIRST IN:

PIECE DYEING
PACKAGE DYEING
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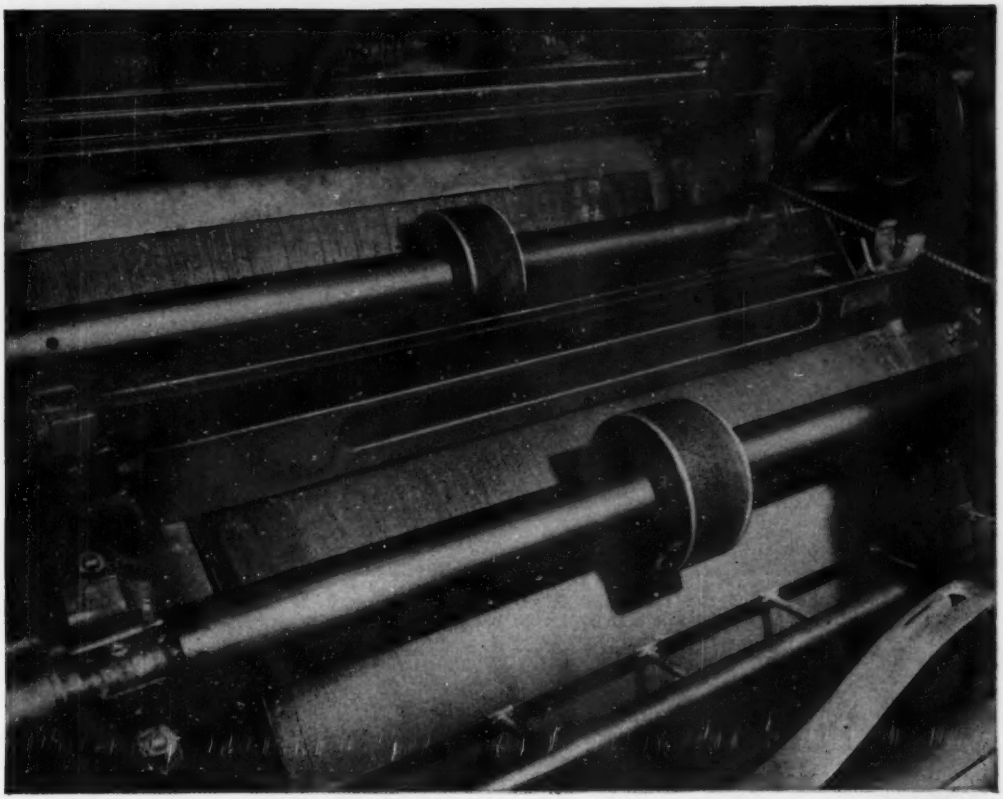

A new Fillet Cloth for immediate delivery...

New uniform-cutting Fillet Cloth by CARBORUNDUM...made of highest quality Turkish emery...reconditions cards quickly and easily. No chiseled points due to uniform-grooving. Result: *True side grinding.* No hooking or bending of card clothing. Tough abrasive grains anchored firmly to backing...no shedding of abrasive. Clean, uniform edges eliminate gaps in spiral winding.

Your CARBORUNDUM distributor can give you immediate delivery from local stocks. See for yourself the cost savings from this new fillet grinding cloth by CARBORUNDUM. Also available in aluminum oxide abrasive. Write Dept. TI 82-126 for further details.

NEW CARBO FILLET CLOTH

by

CARBORUNDUM
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"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company, Niagara Falls, N.Y.

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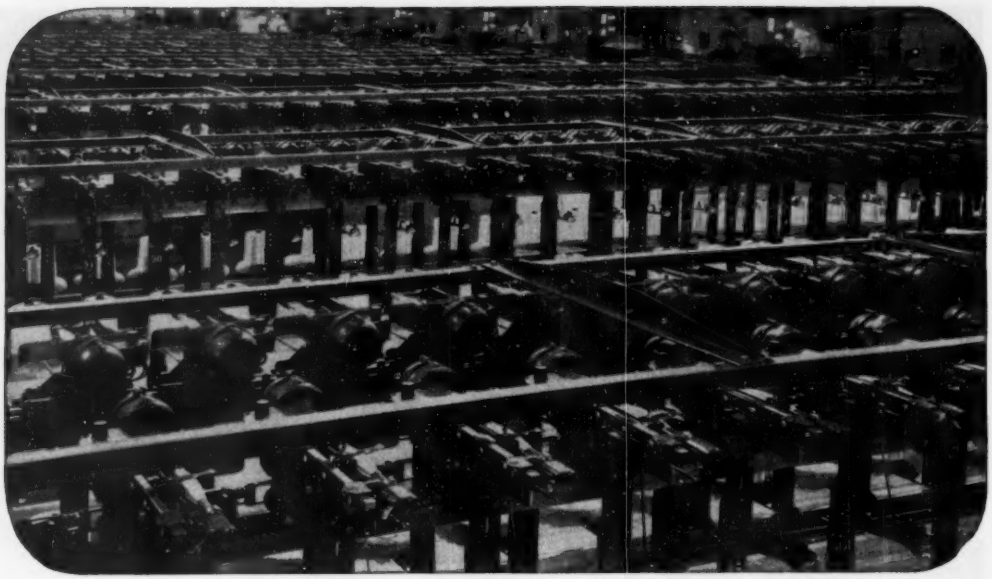
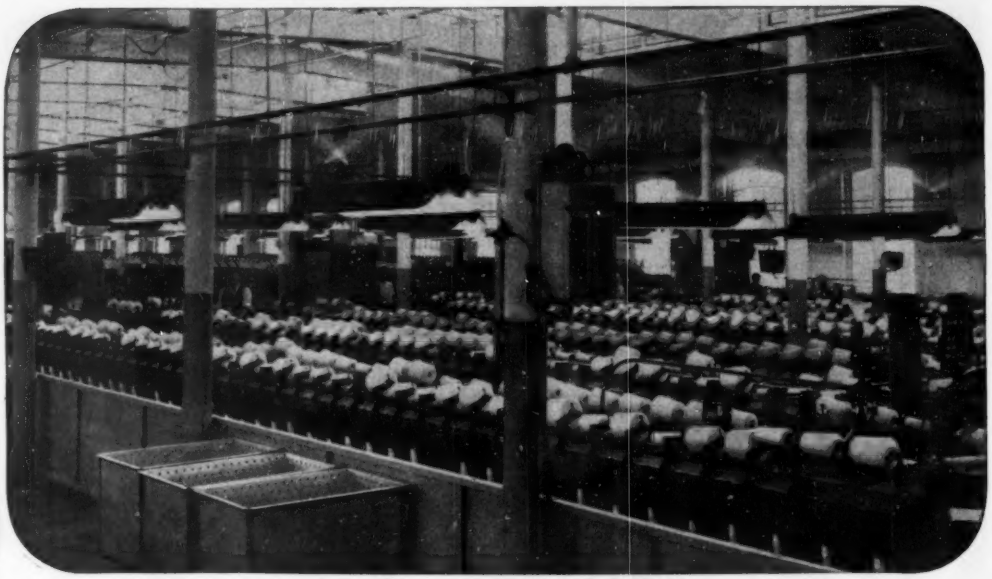


ABBOTT AUTOMATIC QUILLERS PRODUCE MAXIMUM PRODUCTION PER OPERATOR AT LOWEST COST. 1000 TO 2000 BOBBINS OF WOUND FILLING PER HOUR PER OPERATOR.



ABBOTT AUTOMATIC WINDERS REQUIRE ONLY ONE OPERATOR PER MACHINE. 800 TO 1000 BOBBINS WOUND ONTO CONES OR CHEESES PER HOUR PER WINDER.

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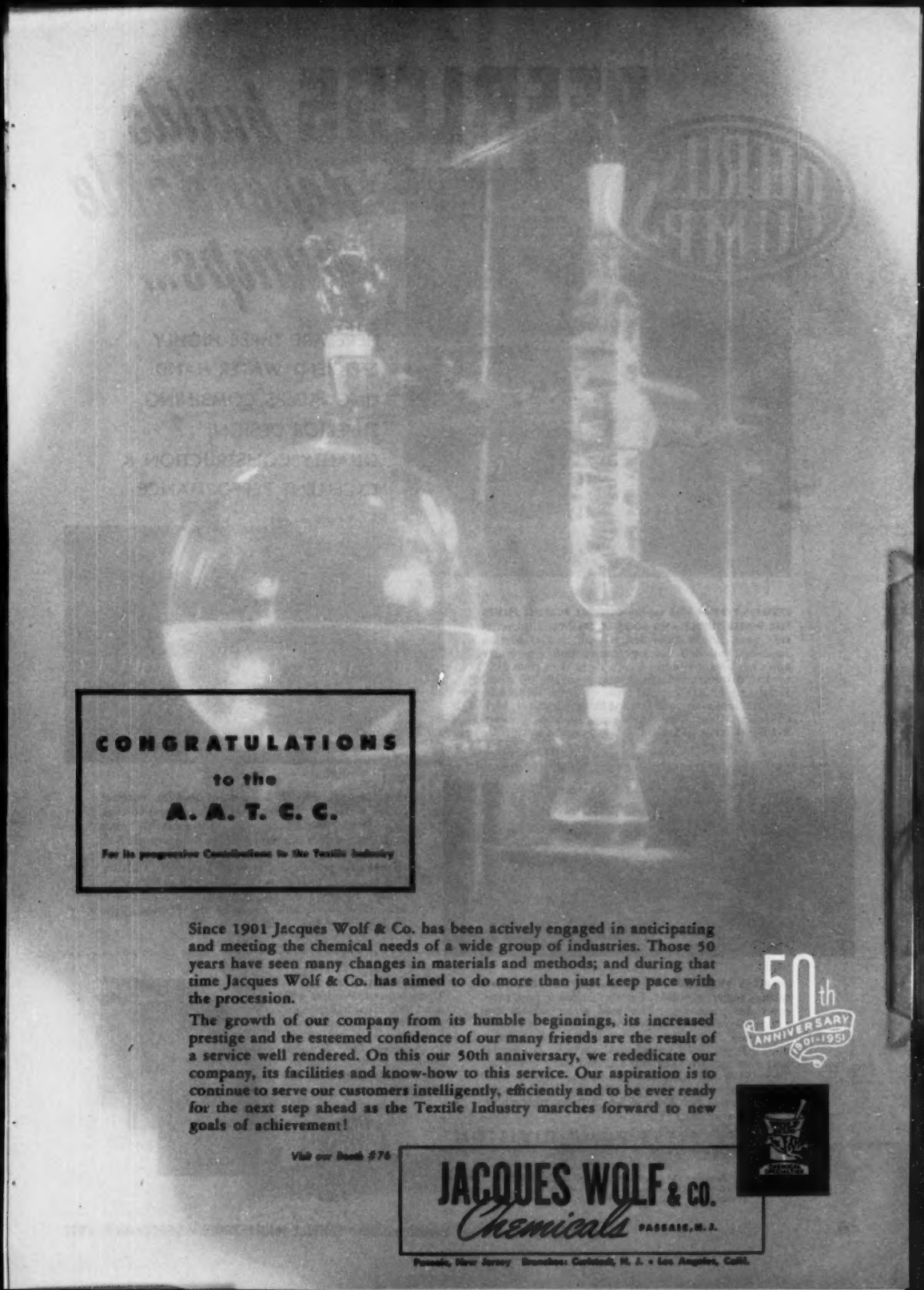

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For its progressive Contributions to the Textile Industry

Since 1901 Jacques Wolf & Co. has been actively engaged in anticipating and meeting the chemical needs of a wide group of industries. Those 50 years have seen many changes in materials and methods; and during that time Jacques Wolf & Co. has aimed to do more than just keep pace with the procession.

The growth of our company from its humble beginnings, its increased prestige and the esteemed confidence of our many friends are the result of a service well rendered. On this our 50th anniversary, we rededicate our company, its facilities and know-how to this service. Our aspiration is to continue to serve our customers intelligently, efficiently and to be ever ready for the next step ahead as the Textile Industry marches forward to new goals of achievement!

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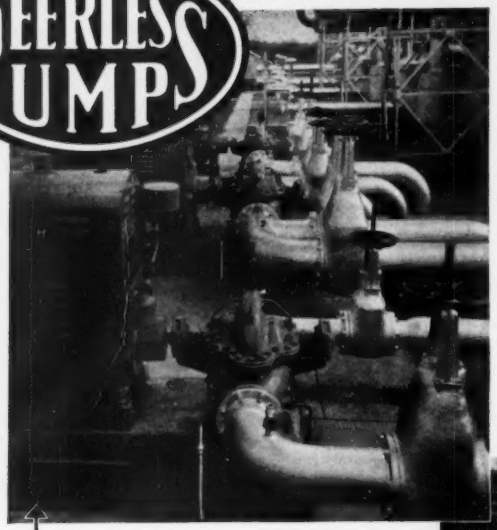
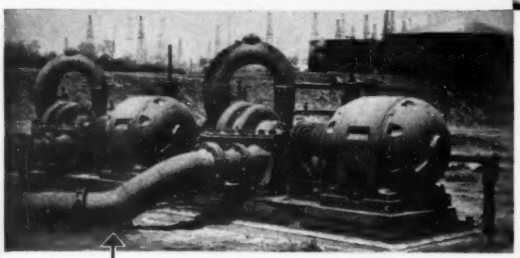
HERE ARE THREE HIGHLY EFFICIENT WATER HANDLING PUMPS COMBINING SUPERIOR DESIGN, QUALITY CONSTRUCTION & EXCELLENT PERFORMANCE



PEERLESS TYPE A *high quality* **GENERAL PURPOSE PUMPS FOR WATER SUPPLY AND BOOSTER SERVICE.** Horizontal split case, single stage design with double suction impellers and ball bearing construction. For water and clear alkaline fluids. Available in sizes from 1¼" to 48" discharge. Capacities up to 70,000 gpm. Heads: up to 300 feet. All types of drive. Rugged in construction; many outstanding design features, high efficiency ratings over entire range of sizes. Bulletin B-1300 describes Peerless Type A pumps in detail.

PEERLESS TYPE PE-PB *economical* **GENERAL PURPOSE PUMPS** — One of the broadest lines of end-suction, single stage, horizontal pumps for most all water handling services offered by any manufacturer. Both fractional and integral hp, direct connected electric (Type PE) or belted (Type PB) models available. H.P. range: ¼ to 150 hp. Capacities: 10 to 5500 gpm. Heads: to 260 feet. Excellent hydraulic characteristics. Bulletin B-2300 describes the Peerless Type PE and PB pumps in detail.



PEERLESS TYPE TU-TUT *multi-stage* **GENERAL AND SPECIAL PURPOSE PUMPS.** For application to both process water pumping, boiler feed water service and some process liquids against higher heads than single stage pumps; two stage (Type TU) and 3, 4 and 5 stage (Type TUT) models are available. Horizontal split case design Type TU has low loop crossover; Type TUT has high loop. Capacities: 50 to 3500 gpm. Heads: up to 1600 ft. All types of drive available. Bulletins No. 301 and No. 310 describing both types are available.

WRITE FOR BULLETINS . . . Upon request, Peerless will send individual bulletins on most every pump, both horizontal and vertical, in its complete line of water handling pumps. Write today for information on the type you require.

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Address inquiries to Factories at:

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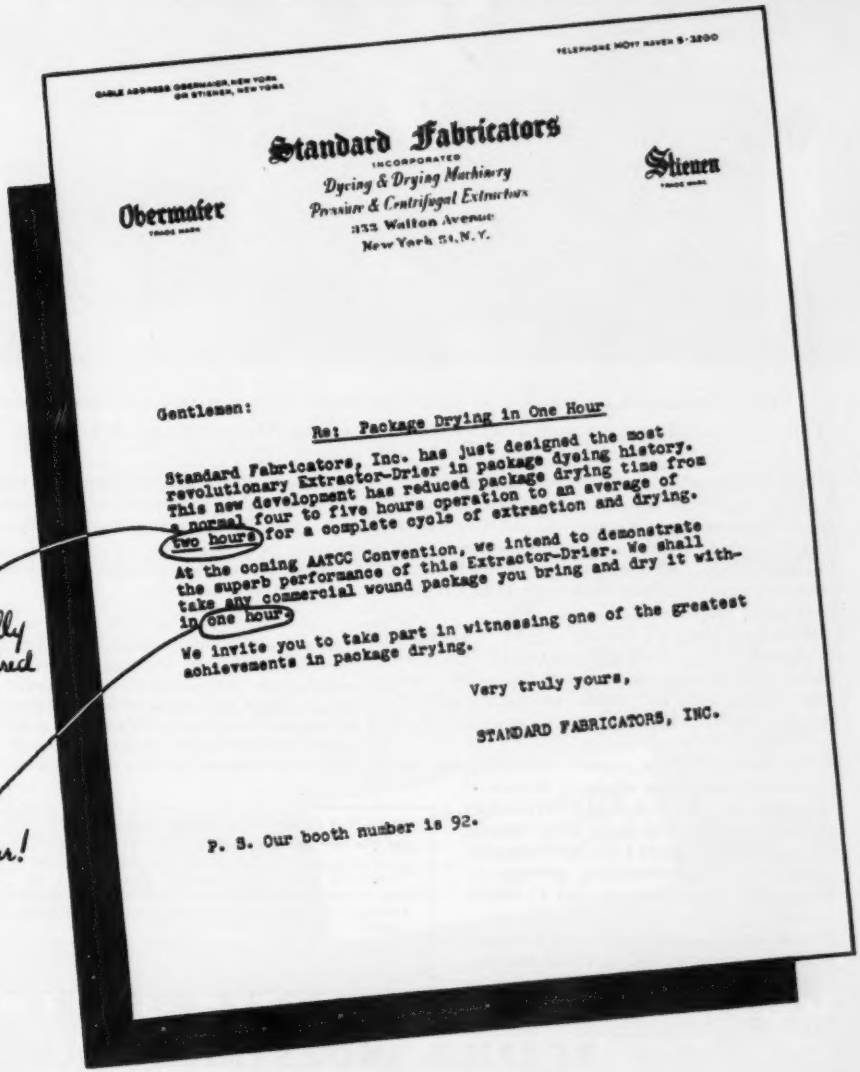
PEERLESS PUMPS fmc

An open letter to package dyers



CABLE ADDRESS OBERMAIER, NEW YORK
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Standard Fabricators
INCORPORATED
Dyeing & Drying Machinery
Pressure & Centrifugal Extractors
333 Walton Avenue
New York 51, N. Y.

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Gentlemen:

Re: Package Drying in One Hour

Standard Fabricators, Inc. has just designed the most revolutionary Extractor-Drier in package dyeing history. This new development has reduced package drying time from a normal four to five hours operation to an average of two hours for a complete cycle of extraction and drying.

At the coming AATCC Convention, we intend to demonstrate the superb performance of this Extractor-Drier. We shall take any commercial wound package you bring and dry it within one hour.

We invite you to take part in witnessing one of the greatest achievements in package drying.

Very truly yours,

STANDARD FABRICATORS, INC.

P. S. Our booth number is 92.

or practically in any desired time

Yes, 1 hour!

WE OUGHT TO GET TOGETHER AND DO SOMETHING FOR MRS. GREEN!
THAT'S RIGHT! BILL DIED ALMOST 3 MONTHS AGO AND HIS G.I. INSURANCE HASN'T COME THROUGH YET

Poor service at a prohibitive cost is typical of many government agencies. Join now with a movement working for "Better Government at a Better Price."

ON investigating the Veterans Administration the bipartisan Hoover Commission disclosed that conflicting lines of authority and volumes of complicated rules and directions had slowed work to a snail's pace. And in one section of the Veterans Insurance they found that there were 24 supervisors to every 25 employees!

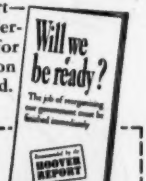
With such a set-up it's small wonder that it takes *80 days* to settle a death claim on a G.I. insurance policy (private insurance companies settle most death claims within 15 days)—or that the costs of running the V.A. are far above what is normal or necessary.

The Hoover Report recommendations were designed to increase the efficiency of Federal operations like the V.A. And today, 50% of the recommendations have been enacted into law. They've made a big start in the important job of modernizing government machinery and cut waste by over $2 billion annually.

Now the rest of the Report recommendations are before Congress. If passed, they will put our government in top running condition—save billions more. For example, full enactment of the recommendations as they affect the V.A. would bring better service to veterans and save millions of tax dollars.

But to assure their passage, these beneficial acts need your help *now!*

HERE'S WHAT TO DO. Send today for the FREE booklet, "Will We Be Ready?" This booklet gives the rousing story behind the Hoover Report—the startling facts it disclosed—the wonderful progress it has made. It's a blueprint for action that will help you finish a job on which our National Security may depend.



TEAR OUT COUPON to remind yourself to get this free booklet without fail

Hoover Report, Box 659, Philadelphia, Pa.

I WANT TO LEARN more about how I can work for "better government at a better price." Please send me your free bipartisan booklet, "Will We Be Ready?"

Name_____

Address_____

This message is published in the public interest by

TEXTILE INDUSTRIES

WHY

AN EASY ROAD TO VAT FASTNESS

are water soluble esters of vat dyes. They produce the same brilliant shades and have the same fastness properties as the parent vat dyestuffs from which they are derived. On cotton and rayon they are more level dyeing and have better penetration than ordinary vats. Prints are smoother and clearer than normally applied vat dyestuffs. On wool Algosols have superior light and wash fastness without impairment to the quality of the wool. The method of applying Algosols is simple and inexpensive.

WOOL

Suitings dyed with Algosols have excellent fastness properties even in light shades. Blankets and knitting yarns have outstanding fastness to light and washing. Algosols are recommended for dyeing slubbing and yarns in circulating machines. Shrink-proofed wool dyed with Algosols has excellent fastness to light and repeated washings. Wool can be dyed with Algosols without impairment to the quality of the wool.

RAYON

Rayon piece goods composed of filament, spun rayon or filament-spun rayon yarn when dyed by the continuous method or on the jig have solid, clear shades and excellent fastness. Rayon skeins are easily dyed on the 'Cascade' type machine. Algosols are excellently suited for dyeing packages and cakes in pressure dyeing equipment.

MIXED FIBERS

Suitings and dress goods of spun rayon and wool blends dyed in solid shades meet all fastness requirements. Special effects can be obtained on cotton-wool and rayon-wool mixtures by dyeing the wool and leaving the cellulosic fibers undyed or on viscose-acetate blends the viscose can be dyed fast color and the acetate tinted to yield two-tone effects.

COST

The simplicity of application, saving in time, lower cost of chemicals, superior dyeing and printing results offset any increase in dye cost over ordinary vats in light and medium shades. Not infrequently Algosols prove cheaper in light shades.

✓ **DELIVERIES** To insure prompt deliveries stocks are carried in warehouses strategically located throughout the country.

Technical information, product samples and the service of a highly trained technical staff are yours for the asking.

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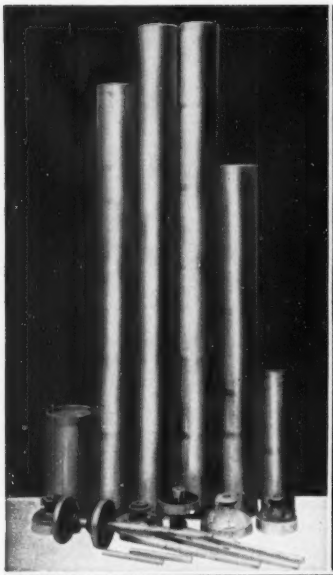
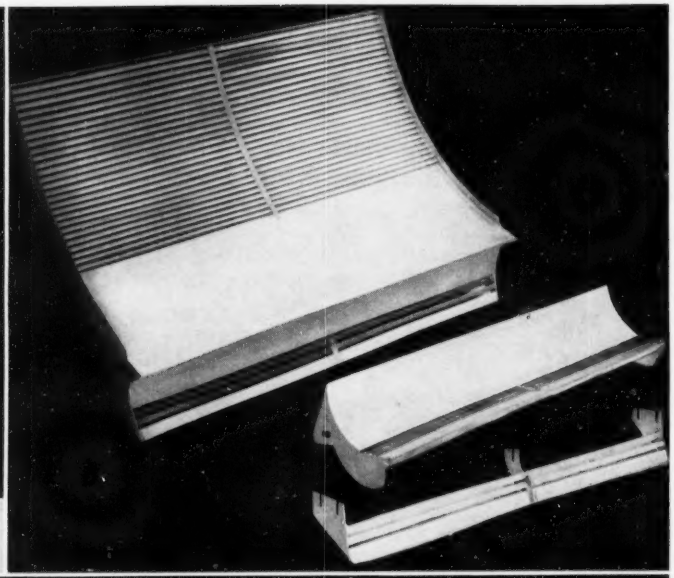




Cylinders to fit any frame-

SCREENS for any CARD

SIMS CHECK LIST FOR REPLACEMENT PARTS

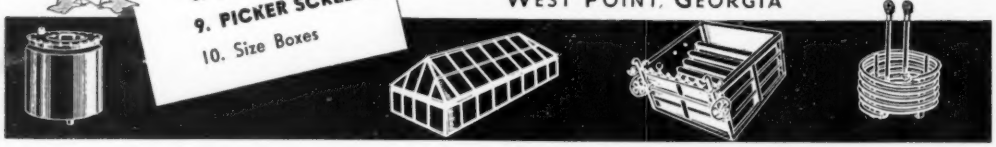
1. Pipe Coils—of every shape, in any metal or alloy
2. Dry Cans
3. Slasher Hoods
4. Rolls—fluted or plain
5. **SPINNING CYLINDERS**
6. **SPINNING CYLINDER HEADS AND ARBORS**
7. **CARD SCREENS**
8. Slasher Cylinders
9. **PICKER SCREENS**
10. Size Boxes

Rough and battered spinning cylinders cannot produce strong, even yarns. Nor, going further back, will worn card screens produce even laps. These important pieces of equipment, so essential to top grade textile production, are frequently neglected. Sims replacement parts stock includes picker screens, cylinders, heads and arbors for any make of frame and screens for any type card. Sims is also equipped to repair reusable equipment. For proper sliver deposit, even lap and strong yarns, inspect carding and spinning equipment, then call Sims.

Sims METAL WORKS

WEST POINT, GEORGIA

Get the Sims CHECK LIST habit — check your equipment against the stock replacement parts list at left. It's a money-saving habit.



Short cut to lower-cost winding . . .

The WHITIN Automatic Bobbin Loader

for use with the Whitin-Schweiter Filling Winder

The economies which can be effected through the use of Whitin-Schweiter Automatic Filling Bobbin Winders are already well known to the textile industry. Today, even greater savings are assured when these winders are equipped with the new Whitin Automatic Bobbin Loader.

This new attachment consists of a large-capacity hopper from which an automatic supply mechanism delivers the empty bobbins to the winder units as they are needed. Various bobbins up to 10-1/8" length can be handled. By thus eliminating the time now required by the operator to refill the bobbin magazines on the winder units, major increases in filling production per operator are effected, with consequent reductions in cost per wound pound of yarn.

A careful analysis of winder tender job loads, with and without the bobbin loader, clearly proves that increases up to 100% in the winder unit assignment are possible on coarse to medium yarn counts. On most counts, the loader will pay for itself in a matter of months, and is an attractive investment even when winding the finest counts. Why wait any longer to take this short cut to lower cost winding?

The Whitin Automatic Bobbin Loader can be supplied with installations of new Whitin-Schweiter Automatic Filling Bobbin Winders or readily attached to machines now in use. Call or write your Whitin representative today!

Whitin MACHINE WORKS

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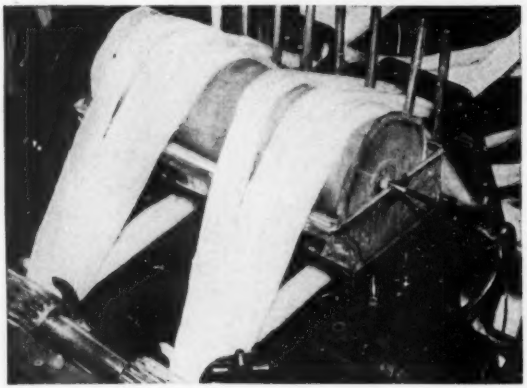
the FEW extra ¢ents that make a LOT of sense

When it comes to producing worsted yarn, there is always this important question: Should a spinner spend a few more cents than absolutely necessary when processing top, to try and achieve more efficient production and better finished products? In the case of Nopco* 1656-R, the answer is "yes".

Today; the price of top is the highest in history. Thus the few additional cents involved in the purchase of Nopco 1656-R become insignificant in the face of over-all costs. Moreover, the unique advantages afforded by this remarkable oil far outweigh its price differential when compared to alternatives. Just consider:

NOPCO* 1656-R...



*Reg. U. S. Pat. Off.

1. ***provides excellent lubrication and eliminates static in worsted sliver. Result: no fly from top treated with this oil—fewer ends down in spinning and winding—much less brush waste;***
2. ***increases the drag, and thereby gives a better draft—resulting in more even and cleaner yarn;***
3. ***scours out with phenomenal ease—actually converting into suds when used with alkali, polyphosphate and water;***
4. ***applies equally to all production systems—American, Bradford or French—and is extremely advantageous on pin drafters.***

Yes, it will profit you to use Nopco 1656-R wherever you employ a lubricant in your top-processing procedure. And it will profit you to specify Nopco 1656-R, as a number of spinners already do, whenever you purchase oil-combed top. You'll pay a few more cents above "rock bottom" perhaps, but when you examine your finished yarns, you'll know you have produced high quality products with surprising economy.

NOPCO
EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY
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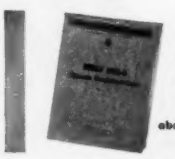
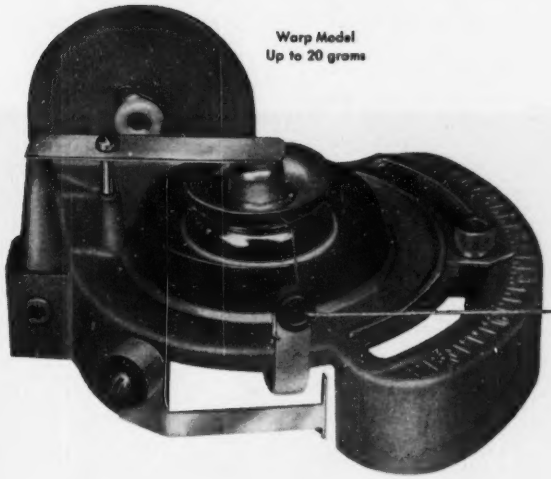
Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.



Send for your FREE copy of this bulletin giving detailed information about Nopco* 1656-R



Warp Model
Up to 20 grams

CUT SPOILAGE

with Kidde Tension Compensators

WHY take chances on spoilage losses from uneven tensions? Kidde Compensators are now being used in more than 500 leading mills to meet varied tension problems. There are three models now available.

1. ***Warp Model.*** This produces smooth, level beams by maintaining predetermined tensions uniformly on all warp ends. Troublesome slack and tight ends are eliminated. By using a Kidde stop motion, lost ends can be controlled.

2. ***Standard Model.*** This compensator has proved highly successful for moderate speeds and tensions. It is recommended for use at speeds up to 300 yards per minute. Use it in quilling nylons and rayons . . . in warping rubber yarns . . . in winding narrow fabric bobbins.

3. ***Double Disc Model.*** This Kidde Model can maintain constant tension at speeds up to 1000 yards per minute. It is particularly suited for tender, high twist yarns and is available in two types—10 to 140 grams and 100 to 300 grams.

Find out how these Kidde tension compensators can solve your tension problems. Fill in and send the coupon below

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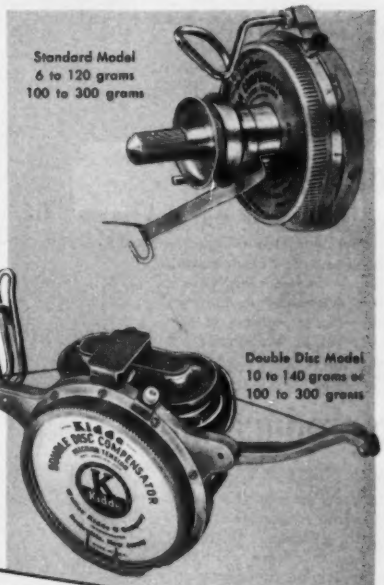
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Kidde



Standard Model
6 to 120 grams
100 to 300 grams

Double Disc Model
10 to 140 grams or
100 to 300 grams

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Gentlemen:

Please send me additional information on the Kidde Compensators.

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COMPANY_____

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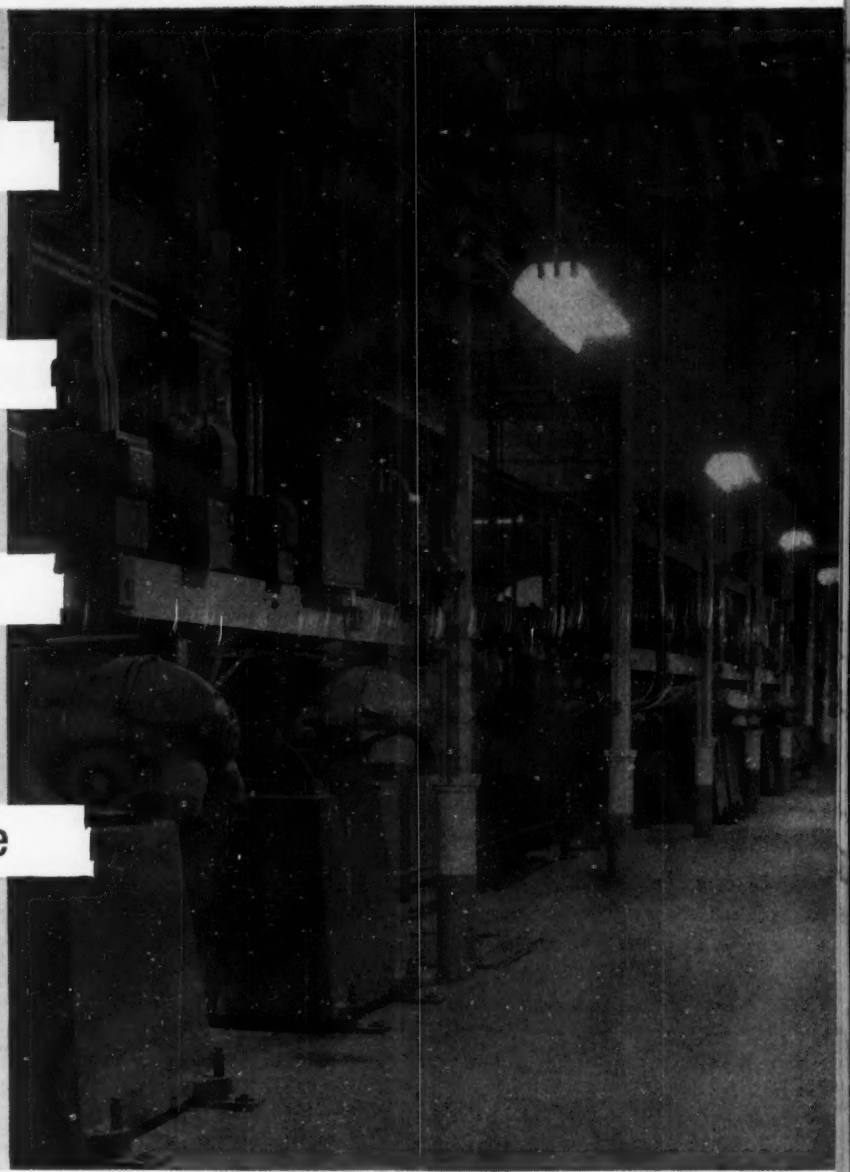
CITY_____ STATE_____



They did

This North Carolina mill saw the advantages to be gained in terms of increased production and reduced costs through a modernized drive.

what

They called in their Westinghouse representative early in their plans to get the benefit of Westinghouse experience with similar installations.

you can do

Do what hundreds of other textile firms are doing. Have Westinghouse work with your engineers and the machinery builder in the application of drives and other equipment to your plant.

to produce more

Whether it's a new drive like this, more dependable and efficient electrical distribution, better servicing or simply the application of a piece of electrical equipment to a tough job, Westinghouse has the answer.

Choose *matched drives* for your finishing machines

That *extra* productive capacity that you want from your finishing machines often depends on "matching" the electrical drive to the textile process and productive requirements of each machine.

Extra production, for instance, can be obtained by running the range at the highest speed that the process and machine will permit. Westinghouse has designed drives that are operating ranges at 375 ypm.

High quality frequently depends on precise speed and tension control. *Low maintenance* is a result of well designed apparatus and the simplest system practical. *Reduced man-power requirements,* particularly important today, depend on the degree of automatic control. This also reduces the human judgment element and helps raise quality. *Versatility,* which permits operating individual sections of a range independently if desired, can be worked into the control system. All of these factors are functions of the drive.

That's why it's important to get a drive that is "matched" to your requirements. This can take the form of a "packaged drive" or of separate components mounted as desired. That's why Westinghouse recommends a thorough study of all factors before a drive is selected.

Your Westinghouse representative will be glad to help with your drive requirements . . . and he is backed by engineers and textile specialists with years of experience in the application of these drives to textile mills. They'll be glad to work with you and your finishing machinery builder on new drive requirements.

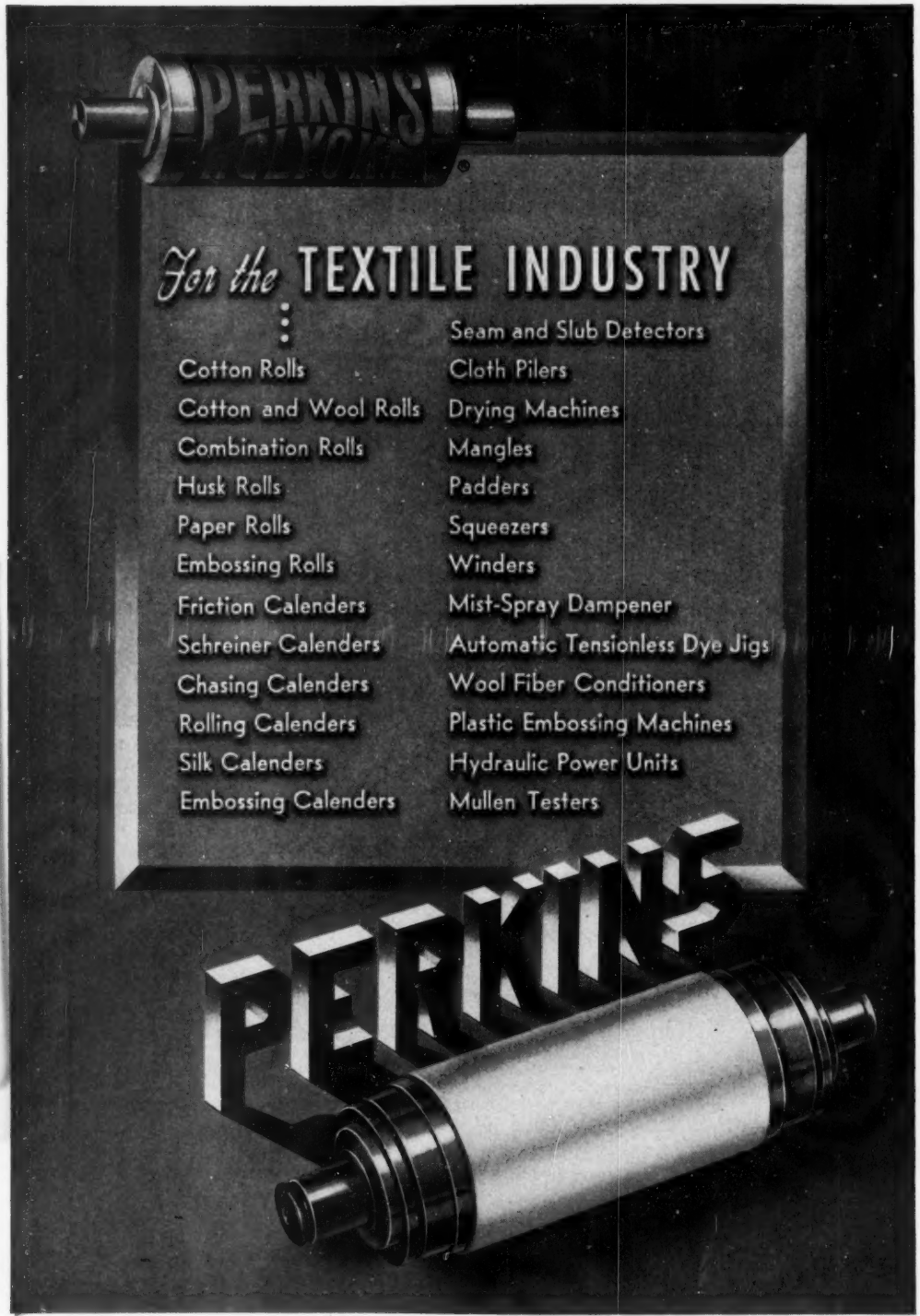
NEW FREE BOOK

Here's help, too—this 32-page book gives you factual information about Westinghouse finishing drives. Tells about tension control, cost factors, speed range, operating economies, maintenance features and other vital points. Write for Booklet B-4034, "Westinghouse Equipment for Textile Finishing". Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-94843

YOU CAN BE SURE... IF IT'S Westinghouse

WESTINGHOUSE

EQUIPMENT FOR TEXTILE PRODUCTION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GIVING WATER A "SHOT IN THE ARM"

QUADRAFOS* lifts textile processing quality all along the line

When you use QUADRAFOS to condition your process water, you also give soap, dyestuffs, pigments, starches and bleaches a chance to do a better job.

In raw wool scouring, less soap gives you whiter, loftier stock. *In kier boiling of cotton*, you get a whiter, clearer bottom for bleaching or dyeing. *In sizing* you get a tougher, more flexible film on the yarn. *In dyeing*, you prevent staining and consequent dulling of colors because QUADRAFOS sequesters iron, copper and nickel ions picked up from equipment, goods or present in the water supply. And so on, through at least 27 vital processing operations, QUADRAFOS gives quality a lift.

Use the coupon below to get the whole story about the numerous ways QUADRAFOS gives water and textile processing a "shot in the arm."

softens water without precipitation . . . deflocculates . . . redissolves precipitates . . . promotes free rinsing

*Reg. U. S. Pat. Off.

ONLY WITH **QUADRAFOS** CAN WATER DO SO MUCH, SO WELL

RUMFORD CHEMICAL WORKS
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Rumford 16, Rhode Island

Please send me further information about the use of QUADRAFOS in textile wet processing. I'm particularly interested in:

- ☐ Raw wool scouring
- ☐ Piece goods scouring
- ☐ Kier boiling
- ☐ Reducing bleach requirements
- ☐ Brighter, more uniform dyeing
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Non-lubricating Top Rolls for Back and Middle Lines*

- eliminate all lubricating effort.
- give much cleaner yarn, due to complete freedom from lubricant.
- reduce picking and cleaning.
- simple to install.

Low First Cost — Substantial Savings — INVESTIGATE

*Not for front line use.

CLEANDRAFT Non-lubricating Top Rolls are made for back and middle lines of all standard and long draft cotton Spinning Systems.

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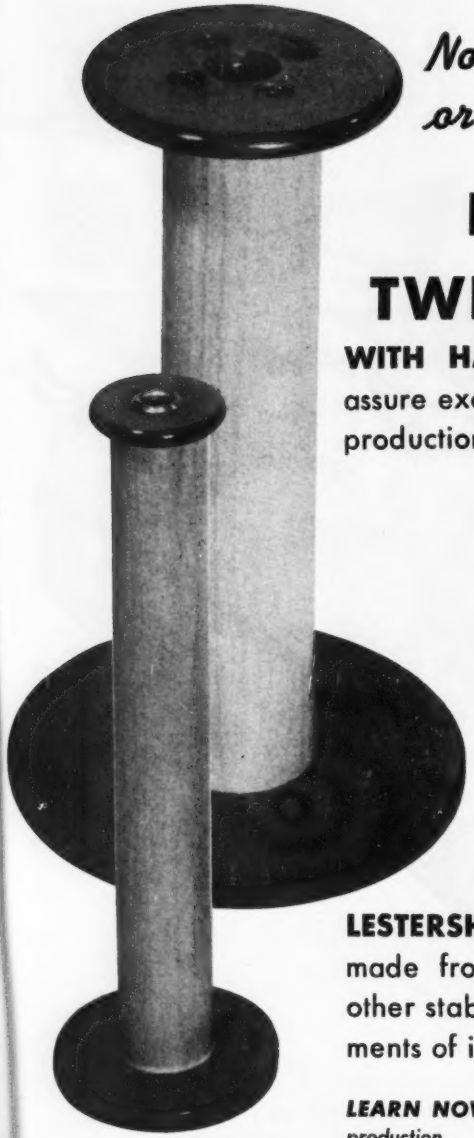

No matter how large or how small...

LESTERSHIRE TWISTER BOBBINS

WITH HARD VULCANIZED FIBER HEADS assure exceedingly long wear with trouble-free production because . . .

- ▶ Every bobbin is specially designed and fabricated for its particular application.
- ▶ "Lock-in" brass spindle bearings prevent spindle wear in large size bobbins.
- ▶ Tubing prevents winding or twisting of the barrels of slim bobbins.
- ▶ Special anchor head screws, on large size bobbins, guard the drive slot from wear.
- ▶ The hard vulcanized fiber heads remain smooth throughout the long life of these fine custom-made twister bobbins.
- ▶ Using them is true economy.

●

LESTERSHIRE BOBBINS OF ALL TYPES are made from aluminum, vulcanized fiber, and other stable materials, to meet specific requirements of individual mills efficiently.

LEARN NOW *how Lestershire special bobbins will improve your production.*

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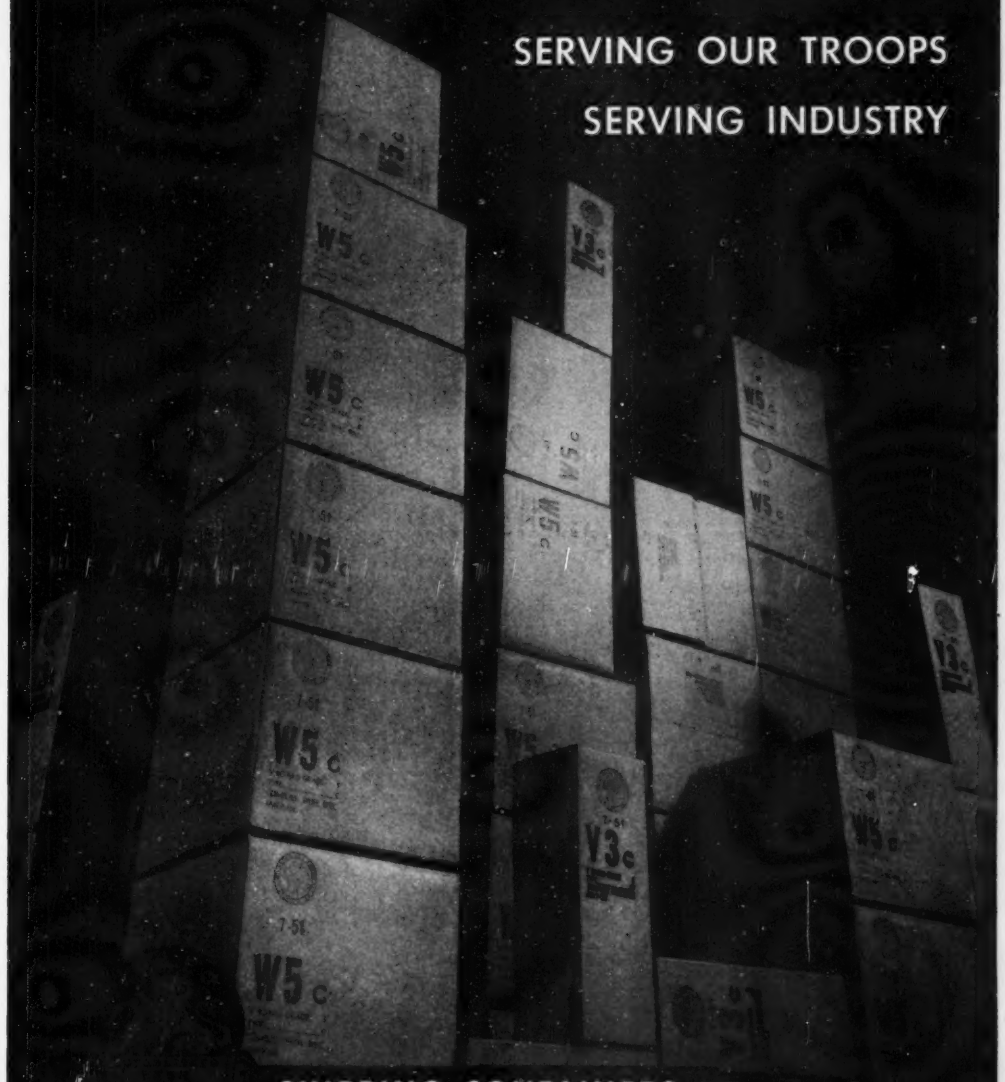

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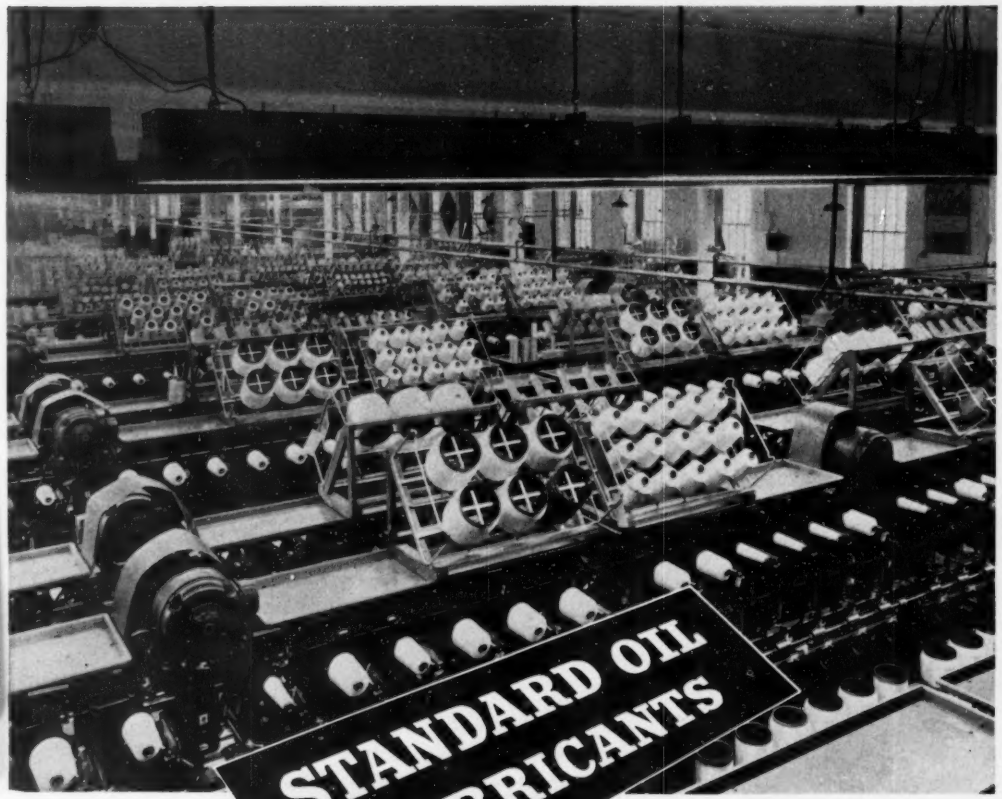
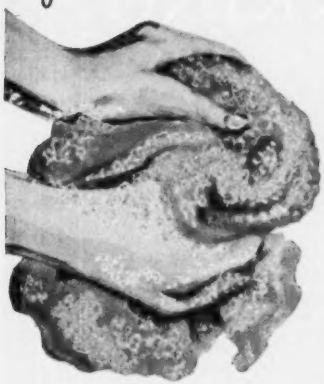
Actions speak louder than words. The *performance* of Standard Oil Lubricants on the job in Southern textile mills is a greater testimonial to their superiority than any claims we can make. The fact that, after sixty years of service to the textile industry of the South, Standard Oil Lubricants are still first in popularity is *proof* that they have continued to deliver satisfaction down through the years. ... Because Standard Oil representatives are in constant contact with users, Standard Oil Lubricants are always abreast of industry's needs. ... No matter what your lubrication needs may be, there is a *specific* Standard Oil Lubricant for each particular job. Your Standard Oil representative will analyze your lubrication problems and submit recommendations without cost or obligation.



STANDARD OIL COMPANY (KENTUCKY)

*KERANOL nk®

gives woolens, cottons and rayons a very desireable, soft full hand...



***Durable to Washing and Dry Cleaning**

Your woolen, cotton and rayon fabrics finished with KERANOL N K will have a truly mellow, glove-like hand, durable to washing and dry cleaning. KERANOL N K is unaffected by variable pH values, so may be used with greatest efficiency in neutral, alkaline or acid baths.

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Additional – and highly valuable – use of KERANOL N K: as a plasticizer and softener in conjunction with all types of resin finishes.

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Please send, without obligation:

- ☐ full details on KERANOL N K
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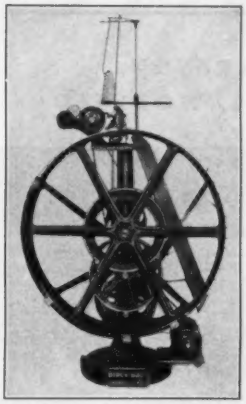
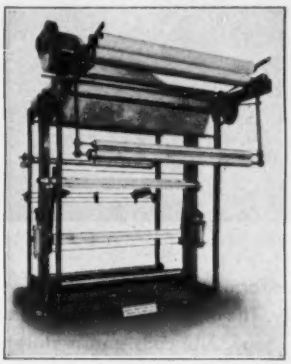


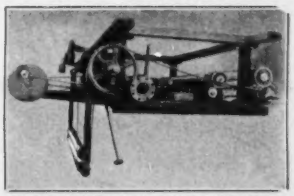
"Supreme" Butt-Seam Gray Room Sewing Machine with Merrow Head. An improved, easily accessible machine.

FOR SINGEING



New Two-Burner Vertical Singer with Radiant Flame Burners—Completely Ball Bearing for all fabrics.

FOR OPENING AND EXTRACTING



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With Built-in Patent Adjustable Slot Vacuum Extractor, with Automatic Ring Type Slot Seal. All Drives by Cut Gears or Roller Chain. Drive by Built-in Motor. Excellent extraction.

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Heavy-Duty (30,000 lbs.) Roller Bearing Padder or Quetsch for Padding and applying Resin treatment. Of exceptionally rugged construction.

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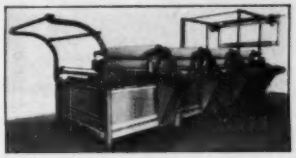
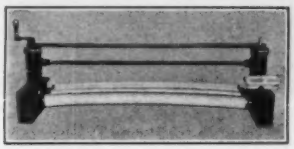
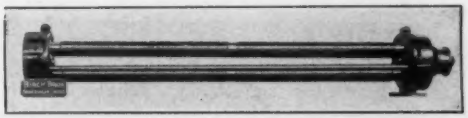


New Four Tank Ball Bearing Continuous Open Width Machine for Scouring, Crabbing, Soaping or Washing. For use on Cottons, Rayons, Rayon Blends, Worsteds, Gabardine and Pile Fabrics. Pressure applied to Squeeze Rolls by Air Cylinders. Drive by Sing'e Motor or by Individual Motors to keep uniform tension on the fabric throughout the machine.



Three-Bar Curved Rubber Expander with increased thickness of rubber giving longer life and better stretch, and fitted with trouble-proof bushings. Patented.



Stainless Adjustable Spiral Opening Rolls with cut threads, and degree of contact adjustable for removing wrinkles and double edges.

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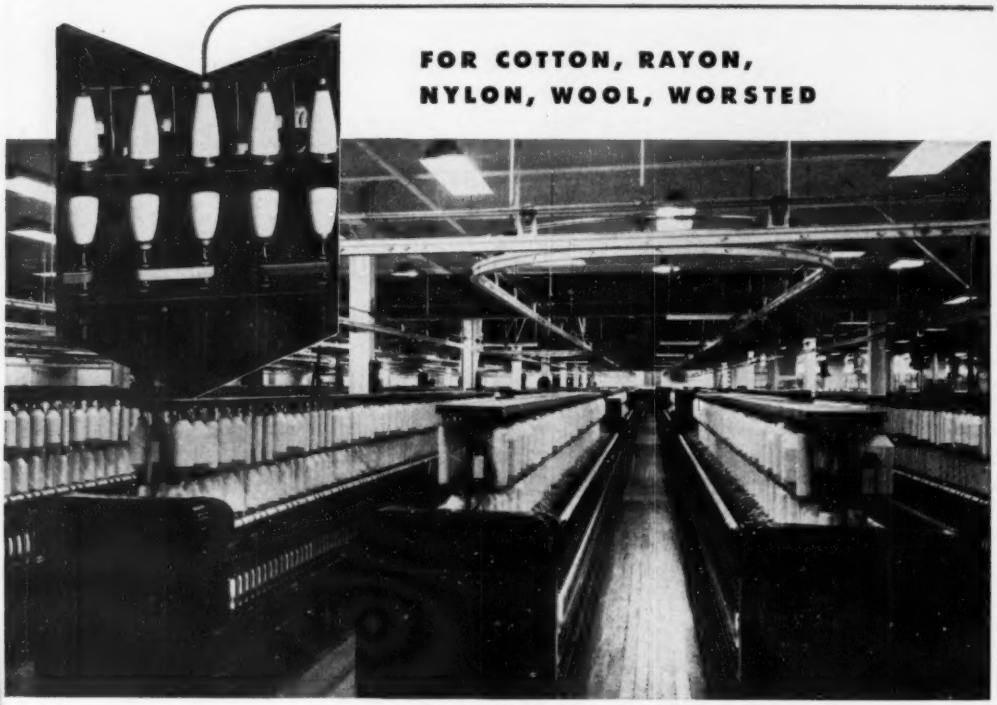
Marquette *Roller Bearing Spindles with Full-Floating Footstep Bearing....*

FOR COTTON, RAYON, NYLON, WOOL, WORSTED



● Several years ago this mill ran a test on a frame of 312 Marquette Roller Bearing Spindles, and today has more than 124,000 in operation . . . some on new frames, some as replacements.

Marquette Cotton Spinning Spindles operate at high uniform speeds and produce yarn of top quality. They reduce costs through savings in power, tape, lubricant and maintenance.

We'll be glad to prove this with a test installation in *your* mill. Contact our home office or one of our representatives.

The Marquette

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Textile Industries
Vol. 115 • Sept. 1951

News in Brief

Rest Period Employees. At least one mill man is experimenting with the idea of using rest period employees to run an operative's job while he is away, instead of basing the job load on a percentage for fatigue allowance. Mill in question cannot be named, but full report may be expected in near future.

Census Reveals Mill Spending. In 1949, textile mills spent $418,545,000 for new plants and equipment. Most of the money was spent for new equipment and machinery instead of for plant additions and new structures, according the Census Bureau's survey of manufacturers.

Avondale on TV. A television newsreel recently released by NBC to 55 television stations features the story of Avondale Mills and its "Partnership With People."

Southern Hosiery Meet Agenda. The program for the annual meeting of the Southern Hosiery Manufacturers Association, to be held Sept. 13-14 at Roanoke, Va., includes talks on industrial relations and determining costs, according to Taylor Durham, president.

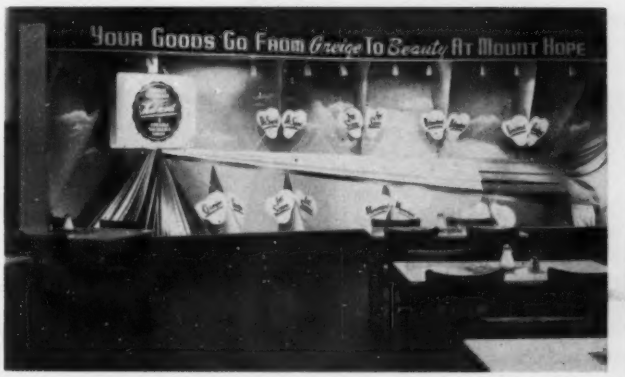
Suggestion Systems Work If Worked At. Mills which have a definite procedure for weighing, adopting, and compensating for good suggestions are reaping the benefits of excellent ideas from the employees. Those who complain of no response to suggestion plan or criticize the idea as being worthless, usually have no system of judging the submitted suggestions or fail to have top management backing.

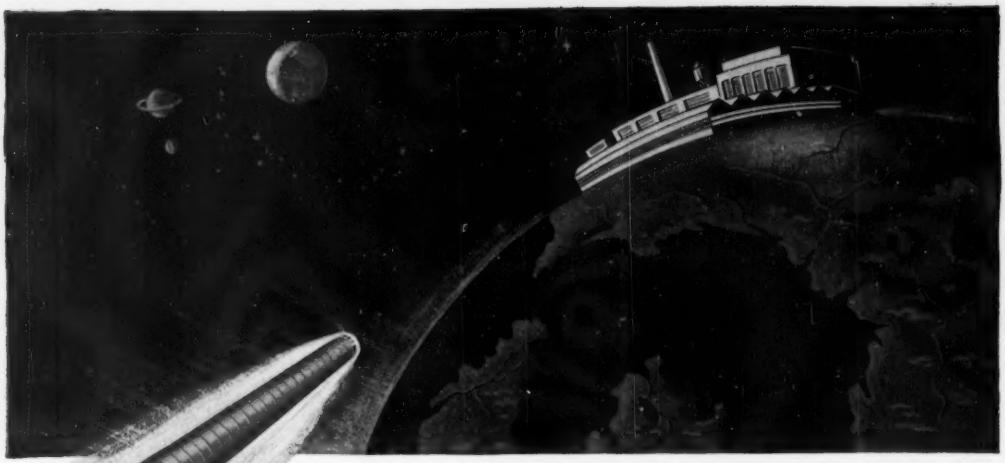
Why Executives Die Young. Executives receive more training—and more pay—than the employees they direct, but executives die younger. For example, average life expectancy for an ad man is 57.5 years. Most American men can count on at least 67.2 years of life, statistics show. What kills key men? Fat, usually—as a contributing factor in high blood pressure and cardio-vascular diseases. There is only one effective way to reduce: To weigh less; eat less. Exercise won't take off enough fat to matter.

"How to Prepare Your Plant for Atomic Attack." A booklet designed to help industrial plants organize against the possibility of atomic attack and prepare for sustained production in case of a national emergency has been prepared. Only basic facts are presented regarding the dangers faced and the procedures recommended for setting up a workable plant defense organization. Copies

MOUNT HOPE'S CAFETERIA DISPLAY FEATURES END-USE PRODUCTS

A display unit which was constructed at Mount Hope Finishing Company for use in celebrating their fiftieth anniversary will remain in the company cafeteria to display end-use products and other features emphasized at Mount Hope. The display is approximately 9 feet high and 60 feet long. Part of the unit (see illustration) features "greige to beauty" transition and part emphasizes Wata-set Elite and less-than-1% shrinkage guarantee.





Aimed selectively at *YOUR* needs

paper YARN CARRIERS

Every A.P.T. order is custom tailored to a specific mill requirement. To meet your needs EXACTLY, we adapt the desirable inert fibrous properties of "paper", — plus indicated additions of plastic or metal by patented plasti-weld method. This most adaptable, most permanent type of bobbin belongs in YOUR mill!

SOME ADVANTAGES OF USING A.P.T. CARRIERS

1. **SURFACE** of correct texture, groove and finish for free but controlled delivery of the particular yarn.
2. **STRUCTURE** by nature resilient and proof against chipping, splintering or cracking; of composition and hardness for the particular need, with light weight.
3. **MOISTURE RESISTANT** due to impregnation; of fibre construction inert to warping and distortion.
4. **UNIQUE DURABILITY**: retain their "brand new" degree of performance throughout their years of life. They do not "wear out" or diminish in efficiency from normal use.

Consult A.P.T.

CONSUMER STANDARDS FOR RAYON DISCUSSED ON TV

A scientist, a dean of a school of home economics, a laundry operator, a dry cleaner, and a housewife appeared recently on television to present a public discussion and demonstration on progress made in writing a national consumer standard for rayon fabrics.

The standard discussed was developed under the auspices of the American Standards Association, Inc., New York, and was sponsored by the National Retail Dry Goods Association. More than 30 national organizations, including yarn producers, weavers, finishers, retailers, wholesalers, and consumer groups cooperated in developing the standard.

The speakers were Dr. Jules Labarthe, Jr., senior fellow at the Mellon Institute of Industrial Research, University of Pittsburgh, Pittsburgh, Pa.; Miss Ardenia Chapman, dean of the School of Home Economics at the Drexel School of Technology, Philadelphia, Pa.; Arthur Gelnaw, president of the Westwood Laundry Co., Westwood, N. J.; Samuel Stein, president of the Swan Cleaners, Crawford, N. J.; and Mrs. Henry Lauson, New York housewife.

of the booklet may be secured from Walter Kidde & Company, Inc., Belleville 9, N. J.

About Women's Suits. A nationwide survey of 3000 women, 18 years of age and over, points out that 64 per cent of American women own suits, comprising a market of 33½ million customers. Fabric is the leading consideration in suit purchases, with 68 per cent reporting that some feature about it influenced their last suit purchase, against 40 per cent for style or cut, 21 per cent for fit, and 18 per cent for the appearance and quality of the tailoring. The percentages total more than 100 per cent because respondents gave more than one answer.

Rayon Production Discussed with Japanese. A conference in Philadelphia between American Viscose Corporation and officials of two Japanese companies has been concluded successfully. Men from Dai Nippon Celluloid Co., Ltd., and Teikoku Jinzo Kenshi Kaisha, Ltd., have been exploring with American Viscose the possibilities for producing acetate yarn and staple in Japan.

U. S. Group to Study German Mills. A team of four management and textile men from Wallace Clark & Company, Inc., international management consultants of New York, headed by Norman E. Horn, director of foreign operations, have started a three-month study of the cotton mills of West Germany. The project is sponsored by the Economic Cooperation Administration and the German Mission to E. C. A.

Hosiery Buyers Want to Pay More. Low mill prices and the fact that stores must operate under CPR 7 have created a situation wherein some hosiery buyers have found they can realize a better markup if they pay a little more and thereby hit a more favorable point on the pricing chart.

Effort to Conceal Troops from Infra-Red Devices. The Army Quartermaster Corps is reported to be engaged in research for dyeing and finishing processes that will provide optimum concealment of troops from infra-red detection devices during night combat. Development of insect-repellent clothing is another project said to be under way.

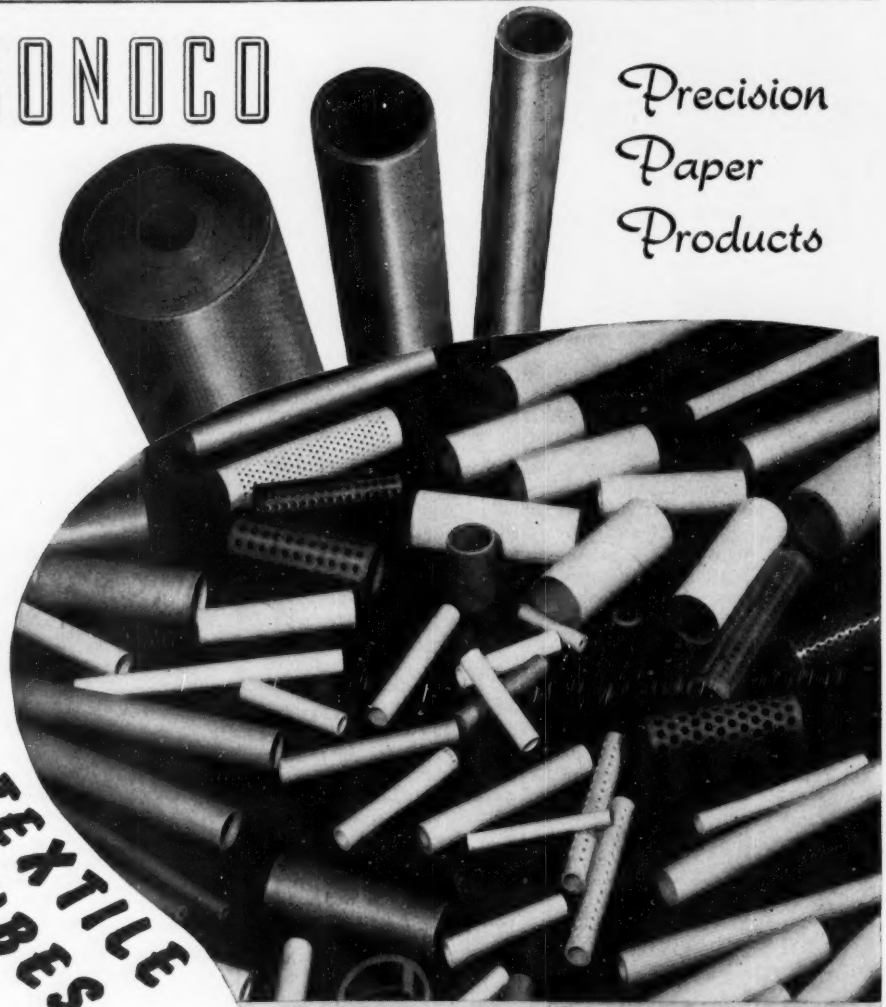
DPs Start Mill. Four displaced persons have started a mill in Worcester, Mass. Called Fimmco Textile Mills, the plant occupies 3,700 square feet of space at 28 Water Street. The firm is producing interlining for overcoats.

AATCC Budget Projected. A research budget totaling approximately $60,000 for 1952 has been submitted to the national council of the American Association of Textile Chemists and Colorists. The 1952 budget represents an increase of $16,000 over the current budget and is to be used to employ additional technicians at the AATCC laboratories at Lowell Textile Institute and to provide additional equipment.

Union Opposes Co-Determination. Answering questions regarding his views on co-determination, John L. Lewis, president of the United Mine Workers, recently stated: "We don't want the responsibility of management. We want the people who put their money into it

SONOCO

Precision Paper Products



TEXTILE TUBES

Sonoco tubes are available in sizes from ¼" to 24" inside diameter, in lengths up to 24 feet with any practical wall thickness . . . they can be supplied in a choice of colors . . . they can be embossed, scored, velvet or Unitex surfaced . . . they can be treated, impregnated, perforated, and printed to specifications . . . they can be end notched, end burnished and end-tipped with colored lacquer bands.

Sonoco technical experts are available to work with you on any textile carrier problem.

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SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

to worry about management problems. We hold that if you change the form of concept of a labor union so that it becomes either an owner or the management of a commercial enterprise, then it is no longer a labor union with the mobility, freedom, and strength to enforce economic pressures. In our form of economy, the labor unions and the voluntary associations of all kinds—cooperatives, trade associations, professional societies—are the inherent and most natural checks and balances. . . ."

Term "Wool Substitute" Called "Rash and Incorrect." Eric Johnston, Economic Stabilization Director, is charged with making a "rash and incorrect" statement regarding the existence of an adequate substitute for wool in a telegram sent to him by Harry J. Devereaux of Rapid City, S. D., president of the American Wool Council, Inc. Mr. Devereaux contended that statements such as that of Mr. Johnston do "a grave disservice to the entire wool-growing and wool textile industry of the country," and added that "the synthetic fibers with which you would replace these basic industries are so totally inferior to wool in essential qualities that there is no basis of comparison."

Chemical Engineers Plan Meet. The American Institute of Chemical Engineers has scheduled a national meeting at Rochester, N. Y., September 16-19. Conferences on chemical plant maintenance, industrial applications of photography, and chemical engineering education are included on the program.

Pooling Production for Defense. Full details on how to form defense production pools are contained in a booklet issued by the Defense Production Administration. The booklet explains in simple terms the steps a group of businessmen must take to band together into a pooled production unit to handle defense contracts and subcontracts. Copies of "Pooling Production for Defense" may be obtained from the Distribution Section, Printing Services Division, Department of Commerce, Washington 25, D. C.

Cleaning Fluorescent Lamps Efficiently. Expect a story in the near future on efficient use of labor in cleaning fluorescent lamp fixtures. Based on job studies, excellent results are being secured.

All Not Perfect. Some mills still are reluctant to accept government orders, but will do so as patriotic duty. They complain, remembering the conditions during the last war, of red tape and petty government officials who use their position to throw their weight around needlessly. The program during World War II of using soldiers in textile mills has been criticized by at least one mill head who felt that it was a publicity stunt; even though in some instances the mills did not need operatives badly enough to call on the army for them, the armed forces sent men with textile experience who formerly worked in Georgia to Texas and vice versa. It was felt that the soldier-operatives could better have been returned to their own mills or to nearby communities.

Silver Plated Hose. Experiments with silver plated nylon are under way at Airmaid Hosiery Mills, Dallas, Texas. The style is not ex-

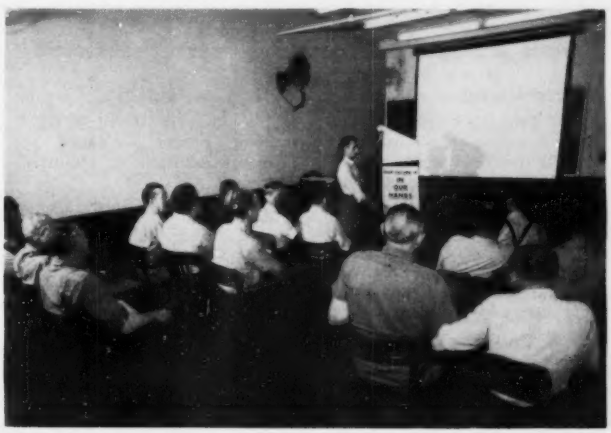
(*Continued on page* 233)

NOVEL EMPLOYEE DISCUSSION PROGRAM

Westinghouse Electric Corporation is using a novel program designed to stimulate discussion among all of its 105,000 employees on the benefits of the American way of life and the danger of losing those benefits. In turn, employees are given an opportunity to present the program before outside groups of their friends and neighbors.

The program consists of two one-hour sessions — both on Company time—for all Westinghouse employees in plants and offices throughout the country. In groups of not more than 20 persons at each meeting, all will complete the sessions this summer. The accompanying picture shows one of several thousand discussion groups.

The first one-hour meeting is devoted equally to viewing a movie titled "In Our Hands" and to a discussion period. On the following day the session is divided 20 minutes for the movie and 40 minutes for discussion. In presenting the program for outside groups, the full two hours can be scheduled for one meeting or the session may be shortened to one hour.



AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Taxes

Two slightly different viewpoints were recently given on the tax situation by men who are heads of large textile corporations, and at the same time are serving as chief executives of two of our important trade associations.

In an appearance before the Senate Finance Committee, Charles C. Hertwig, president of Bibb Manufacturing Company and president of the American Cotton Manufacturers Institute, Inc., expressed the belief that it was entirely unnecessary for Congress to raise taxes because, according to the government's own estimates, there would be sufficient revenue to meet the cost of government.

"We believe," he said, "it is unnecessary for fiscal purposes to increase corporation taxes and believe that such action, if taken would be definitely injurious to the country's production effort. We especially object to the proposed increase of the normal tax rate of 30% and to the proposed reduction of the excess profits credit to 75% of normal earnings."

He also expressed the opinion that from the standpoint of both agriculture and industry the problem of supplying the nation has been met and that this tremendous production has solved the problem of inflation as far as it can be solved "by private action."

On the other hand, another textile man, W. H. Ruffin, president of Erwin Mills, Inc., and president of the National Association of Manufacturers, in recent public addresses has expressed the opinion that the government must pay the whole cost of the defense program, as well as non-defense expenditures, out of taxes. He has pointed out that no one likes to pay taxes, but that unless we pay-as-we-go, we are in for a very bad case of inflation.

He has urged that such additional taxes as might be necessary be collected by way of "consumption levies" on all manufactured goods except foods and food products. We presume that a "consumption levy" is the same as a national sales tax.

The Twain May Meet

At first glance, Mr. Hertwig's viewpoint and that of Mr. Ruffin appear to be considerably at variance. On close inspection, however, perhaps they are not so far apart after all, because as we understand Mr. Hertwig's testimony, he is arguing that we *already* have sufficient revenue to meet all the expenses of government, and to increase taxes would merely give the people in Washington additional opportunities to squander the surplus on ill-considered projects.

Mr. Ruffin apparently is not quite as convinced that our revenue will be adequate to meet the costs of a government balanced on the uncertainties of war and peace, and he is anxious that the difference be made up by taxes rather than by credit.

It appears that both of these association executives are thoroughly convinced that the government's own wild spending is making the greatest contribution to inflation that we have in the country today and that any increase in this unnecessary spending might prove fatal. Both appear also to be convinced that increases in corporation taxes would be stifling to production, and by cutting down

EIGHT HONORED BY ENGLAND'S TEXTILE INSTITUTE

Eight American and Canadian textile men were recently elected to Fellowship and Associateship of the Textile Institute, 16 St. Mary's Parsonage, Manchester 3, England.

Fellows elected are: **Richard C. Cox,** dean of Philadelphia Textile Institute; **Herbert F. Schiefer,** physicist in the textiles section, National Bureau of Standards; **George S. Buck, Jr.,** technical director of National Cotton Council; **Walter M. Scott,** assistant chief, Bureau of Agricultural and Industrial Chemistry, U. S. Department of Agriculture; **Emery I. Valko,** research consultant of Mountain Lakes, N. J.

Associates: **J. R. Stewart,** head of the Department of Textile Chemistry & Dyeing, Provincial Institute of Textiles, Hamilton, Ontario, Canada; **Alfred H. Pierce,** technical development, Canadian Cottons Ltd. Mills, Cornwall, Ont.; **Edward Szlosberg,** Sandoz Chemical Works, Inc., New York, N. Y.

the supply of available goods would also contribute to the inflationary spiral.

Incidentally, mention of Mr. Ruffin reminds us that he is the first native-born southerner to head the National Association of Manufacturers. It is said that the NAM presidency is one of the most grueling jobs in the country because it involves some 60,000 miles of traveling during the year, with speeches at every whistle-stop along the way. That Bill Ruffin can run a ten-mill organization while participating in this grind is a tremendous tribute to his ability, and it is also a tribute to his associates who are assisting him in the operation of Erwin Mills, Inc.

Returning Veterans

The tax picture is not the only one, of course, which the busy textile executive must keep his eye on these days. There are literally dozens of federal laws and regulations with which manufacturers must comply, and it is difficult to keep up with all of them.

For instance, there are several laws which apply to the reinstatement of veterans to the jobs they formerly held before entering the military service. An understanding of these requirements on the part of the employer is essential from the standpoint of staying out of jail and from the standpoint of preserving good community and public relations.

These are the specific laws which deal with this subject: Army Reserve and Retired Personnel Service Law of 1940, as Amended; Selective Training and Service Act of 1940, as Amended; Service Extension Act of 1941, as Amended; 1951 Amendments to the Universal Military Training and Service Act.

Which one of these laws is applicable in a given situation depends upon the date the individual concerned entered the armed forces. In general, however, all of the acts were written with the same end in mind, and that is the protection of the jobs of returning veterans.

The last law, however, provided several changes, and one of the most important was a provision that statutory leaves of absence were extended to those entering the military services for short periods of time such as summer camps, physical examinations, etc.

Who Is Protected?

Under the law protection is extended in general to jobs held by the following: those who are inducted (drafted into the armed forces); those who voluntarily enlist; reservists called to active duty; national guardsmen on active duty in the armed forces of the United States (service with state national guards is not covered by federal law); and reserve officers of the Public Health Service called to active duty.

Those who have served for only short periods of time such as in summer camps, etc., must apply for reinstatement to their jobs within 30 days, while those who have been on extended active duty are given 90 days in which to apply. Veterans who have been hospitalized are given an additional 9 months, or a total of one year, in which application may be made for reinstatement.

Certain conditions, however, must be met in addition to application within these time limits. The veteran must still be qualified for the position he previously held. Another very important requirement is that the employer's "circumstances" have not changed since the veteran went into service. Additionally, temporary employees are not covered by the law, but presumably the burden of proof would be on the employer to show that the veteran had been temporarily employed rather than permanently employed.

Generally speaking, employees who have entered the military service for either short terms of duty or for extended duty are to be treated on their return as though they had been on leaves of absence from their jobs.

All of this illustrates how difficult it is to keep up with today's rapidly changing scenes. Even large mills with personnel departments are faced with this difficult problem, but it is even harder for the mill whose president must keep up with the cotton market, with price ceilings and with rules, regulations and interpretations of the Department of Labor, and the dozens of other administrative agencies which make up a part of our national economy in this year of 1951.

Sept. 13-14—Annual meeting, **National Association of Cotton Manufacturers,** New Ocean House, Swampscott, Mass.

Sept. 13-14—Fall meeting of the **Fiber Society,** Swampscott, Mass.

Sept. 13-14—Annual meeting, **Southern Hosiery Manufacturers Association,** Hotel Roanoke, Roanoke, Va.

Sept. 24-26—9th annual meeting, **Underwear Manufacturers Executive Association,** William Carter Company, Needham Heights, Mass., hosts.

Oct. 4—Sixth annual meeting, **Carded Yarn Association, Inc.,** Carolina Hotel, Pinehurst, N. C.

Oct. 4-5—4th annual **Occupational Vision Congress,** Georgia Institute of Technology, Atlanta, Ga.

Oct. 8-12—39th **National Safety Congress and Exposition,** Chicago, Ill.

Oct. 17-19—Annual convention, **American Association of Textile Chemists and Colorists,** Hotel Statler, New York, N. Y.

Oct. 18-19—Annual meeting, **North Carolina Cotton Manufacturers' Association,** Carolina Hotel, Pinehurst, N. C.

Nov. 1-2—15th annual **Time and Motion Study and Management Clinic,** sponsored by Industrial Management Society, Sheraton Hotel, Chicago, Ill.

Nov. 8-9—Annual meeting, **Textile Research Institute,** New York, N. Y.

Nov. 26-Dec. 1—23rd **Exposition of Chemical Industries,** Grand Central Palace, New York, N. Y.

1952

Jan. 16-19—**Plant Maintenance Show,** Convention Hall, Philadelphia, Pa.

April 16-18—Annual convention, **Cotton Manufacturers Association of Georgia,** Boca Raton Hotel and Club, Boca Raton, Fla.

April 16-17—Spring meeting, **Fiber Society,** Clemson House, Clemson, S. C.

April 21-25—**Knitting & Allied Crafts Exposition,** Grand Central Palace, New York City.

April 28-29—Annual Meeting, **National Association of Hosiery Manufacturers;** also the **Hosiery Industry Conference;** Claridge Hotel, Atlantic City, N. J.

May 15-17—Third annual convention, **American Cotton Manufacturers Institute, Inc.,** Haddon Hall Hotel, Atlantic City, N. J.

Oct. 6-11—Seventeenth **Southern Textile Exposition,** Textile Hall, Greenville, S. C.

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HARDWOOD LOOM NECESSITIES

Made From the Finest Hickory and Dogwood

Box Fronts
Crank or Pitman Arms
Creel Sticks
Harness Roll Bearings
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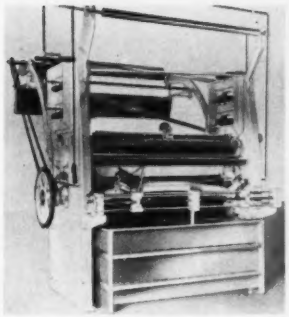
THE SULLAWAY CLOCK COMPANY

E. H. JACOBS

Northern Division **DANIELSON, CONN.** ● Southern Division **CHARLOTTE, N. C.**

NEW Equipment AND MATERIALS



Padder has diaphragm type air motors (Riggs & Lombard).

Air Motors Insure More Even Pressure for Padder

Diaphragm type air motors insure more even pressure from side to side on a new padder, the manufacturer states, because there is no friction as is the case when regular cylinders are used. It is further stated that there is no air leakage with this type of pressure equipment. Maintenance economy is an additional benefit cited as the bottom roll, being of stainless steel, does not have to be removed for periodic regrinding as is the case when rubber roll is used.

The unit has heavy duty stands complete with heavy duty steel pipe tie girts. Bottom roll is stainless steel jacketed, while the top roll is rubber covered. Bearings are heavy duty roller type in cast iron housings, with one side of fixed type while the opposite side is floating type.

Pressure is obtained through use of three diaphragm-type air motors on each side. Each set of air motors is connected to sliding yoke which comes down directly on top of the top roll bearings. The air motors give a pressure of 350 pounds per linear inch of roll surface.

For top roll lift equipment, there are two 5" standard type cylinders equipped with levers so that when pressure is released from the diaphragm motors the top roll may be lifted out of contact with the bottom roll.

At the entering side, a stainless steel tank with suitable immersion rolls is located under the main rolls. A set of cloth guiders at the entering edge of the tank keeps the cloth centered as it goes into the tank. Just ahead of the main rolls, a single expander roll insures that the cloth goes into the rolls open width and free from wrinkles.

To keep the roll free from flocks, a flock brush complete with flock tray is located on top and in front of the top main roll. At the delivery side of the machine is a folder. The main drive is normally through a variable speed unit, so that cloth speed may be varied as required.

Riggs & Lombard, Inc., Lowell, Mass.

For additional data, request item I-215, using business reply card on page 254.

Reed and Heddle Brushing and Polishing Machine

A Swiss-made, precision-built reed and heddle brushing machine now available to textile manufacturers in the U. S. A. cleans, hones and polishes reeds; also, it cleans and polishes heddles which are mounted in the harness frame, eliminating the necessity for removing the heddles for cleaning.

Known as the "Robot" machine, it is supplied with one pair of horse hair brushes, one pair of bronze brushes, and a special honing attach-

Plastic Yarn Carrier for B-C Spoolers

Development of a tough, plastic yarn-carrying sleeve for use on Barber-Colman spoolers has been announced.

Made from Uscolite, a thermoplastic blend of rubber and plastics, it is expected to reduce greatly the maintenance costs since the sleeve has more than five times the impact strength of phenolic varieties now in use and will not shatter, chip nor warp.

In addition, it will not nick around the edges, the manufacturer claims, eliminating a frequent cause of yarn breakage, wild yarn, and knots. It can be used with cotton, rayon, and the newer synthetic fibers spun on the cotton system.

A waffle design on the surface of the sleeve permits it to carry yarn more securely. It is available in two sizes for the principal types of Barber-Colman spoolers and in three colors—blue, gray or brown.

United States Rubber Co., Mechanical Goods Div., Rockefeller Center, New York 20, N. Y.

For additional data, request item I-209, using business reply card on page 254.

How to win in a draw!

THE NEW IMPROVED DAYCO COT

with fiber repellence plus!

★ **SAVES LABOR COSTS**

★ **STOPS TIME-OUTS FOR ENDS-DOWN AND LAP-UPS**

This new "spinner" even tops the sensational service that other types of Dayco Cots have given! And, if you're now using ordinary cots, this new and improved Dayco will increase the cot life you're now getting by *years!*

It's made of an entirely new compound of American Rubber, scientifically blended for fiber non-attraction. Its non-stop performance cuts non-productive costs—the cost of time and labor required to cope with ends-down, lap-ups. It's versatile, too—use it for spinning all types of fibers: cotton, wool, blends or synthetics.

THE DAYCO LONG DRAFT APRON...

The precision apron

No false starts after a shut-down, when your frames carry Dayco Long Draft Aprons! Just turn on the power and spin, right from mill-opening on Monday. No warm-up period before you can begin production. "First apron I ever saw that you wouldn't lose a few with, when starting up!" says a South Carolina overseer.

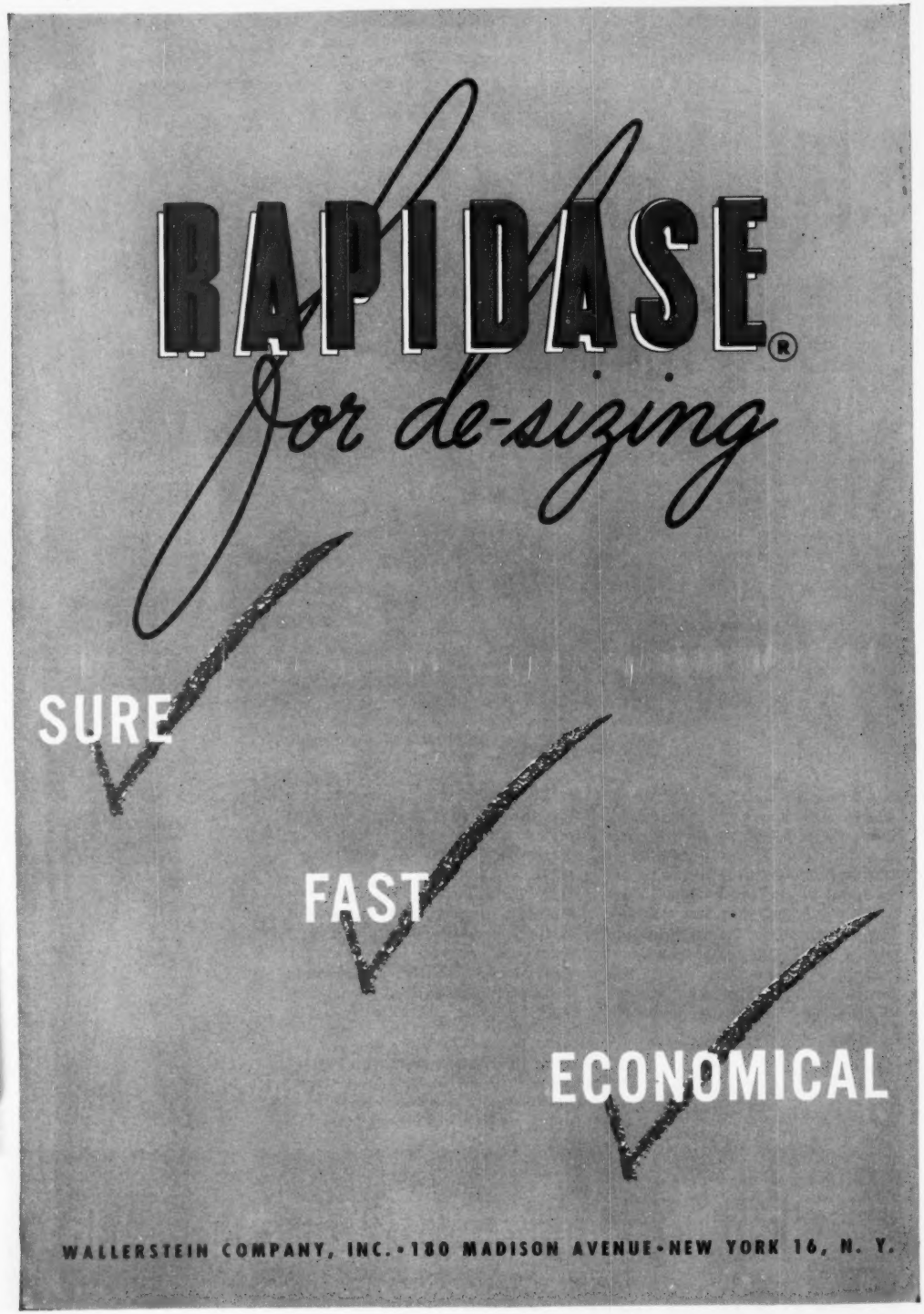
Because it's precision made, you can change apron length by as little as 1/64" in diameter. Dayton's own exclusive method of marking for the two-apron system guarantees you a perfect fit, for any age or type of cradle. Thickness, diameter, and width never vary.

To learn more about these two fine tools for better drafting, as well as the other Dayco and Thorobred products, see your salesman; or write: *Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.*

Girls like this six-shooter are cuter, ***because Dayton's in on the draw, helping spin and weave winning costumes that make pretty cowpokes prettier.***

Dayton Rubber

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING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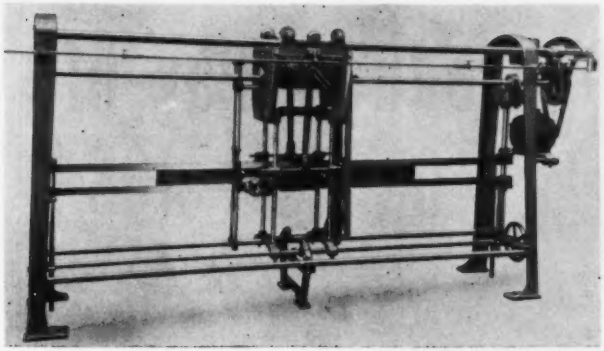


Reed and heddle brushing and polishing machine (Theiler).

ment. The horse hair brushes are used for cleaning average dirty reeds and heddles while the bronze brushes are used for cleaning rusty reeds and heddles. These bronze brushes remove rust quickly without damaging heddles or reeds, according to the announcement.

The honing attachment is used for polishing slightly damaged reed dents and for removing shuttle marks. The two brushes move up and down and then travel lengthwise the whole reed or harness frame. They clean the reeds and heddles very effectively and due to the fast revolving motion, remove the dirt between the dents, at the same time polishing the rough spots.

Reeds or harness frames with heddles can be mounted into the cleaning machine within a few seconds, and after pushing the starting button the machine cleans the reeds or the heddles automatically and stops after the predetermined number of traverses.

H. J. Theiler Corp., Whitinsville, Mass.

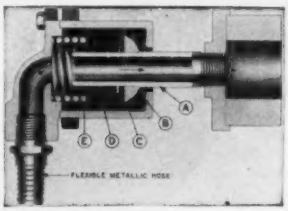
For additional data, request item I-212, using business reply card on page 254.

Heavy-Duty, Self-Supporting Rotary Pressure Joints

The self-supporting Type S Johnson joint is now available in heavy duty construction suitable for operating pressures up to 250 psi. It retains in full the packless, self-lubricating, and self-adjusting features of the standard Johnson joints. Rotating member consists of only one part—a nipple which is connected directly to the roll of drum. This nipple has a convex, hemispherical collar which rotates against a matching concave surface of a special carbon-graphite seal ring.

Pressure itself acts as the sealing force—fills the entire housing and forces the seal ring tightly against the collar. A spring is provided in the joint, but this serves only for initial seating.

Rear portion of nipple serves as a



Sectional view of Johnson Type S through-flow joint. Nipple (A) is connected to roll. Seal ring (B) rotates against nipple collar (C). Guide (D) supports joint. Spring (E) is for initial seating only.

bearing surface and is carefully machined. It rotates in a large carbon-graphite guide, which in turn is fitted carefully inside the body. It is this construction which supports the joint, permits it to shift as the roll shifts so there can be no danger of misalignment.

Unit is available for either through-flow or siphon pipe service. Sizes, ¾" to 3".

The Johnson Corporation, Three Rivers, Mich. (I-319).

Anti-Fatigue Floor Mat

Called "Lite Step" and featured for its anti-fatigue qualities, a floor matting now on the market is a combination of ⅛" corrugated rubber welded to a ¼" live sponge rubber base. Comes in all lengths and up to 72" in width. According to the manufacturer, it gives rug-like softness to floors, even concrete; will not slip on any surface; is tough and long-lasting, easily washable, odor-free, and resistant to ordinary chemicals. Can be cut or manufactured to fit unusual shapes. No installation required.

Ace Hose & Rubber Co., 1706 S. State St., Chicago 16, Ill. (I-312).

(*Continued on page* 199)

Self-Centering, Rotating Clamp for Fork Trucks

A hydraulically operated clamp for industrial fork trucks enables bales, bins, drums, and miscellaneous containers to be picked up and transported on the centerline of the truck.

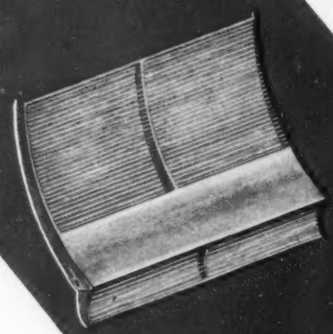
When used with a rotator, the clamp does not creep off center, it is claimed. Loss of pressure grip in arms is minimized. A variable clamping pressure permits handling of any type load, such as fragile cartons, heavy containers, bales, and boxes.

The self-centering arms have an inside opening range from 17" minimum to 66" maximum. The clamp will handle loads up to 6,000 pounds, and can be installed on gasoline or electric trucks.

The Yale & Towne Mfg. Co., Philadelphia Div., 11000 Roosevelt Boulevard, Philadelphia 15, Pa.

For additional data, request item I-202, using business reply card on page 254.

ENGINEERED Products Pay-Off ON THE JOB!



Metal products that "look just as good" may be a poor bargain!

Jenkins invites you to make the only test that really counts—try Jenkins engineered spinning cylinders and card screens under actual running conditions. You'll quickly see how their *operating perfection*—the result of scientific design and superior construction—pays off in improved yarn quality and mill savings.

PERFECT SCREEN SETTING PAYS!

Jenkins card screens are absolutely uniform in every part, with a patented grid bar feature that permits close, balanced setting to card cylinder. By eliminating excessive fly waste, Jenkins screens save valuable good-staple cotton.

SMOOTHER CYLINDER OPERATION PAYS!

Jenkins Dynamically Balanced cylinders run smoothly, steadily, without a trace of vibration. Yarn flows freely and smoothly at all speeds. Excessive wear on spindles, bolsters, gears, bearings, journals, and other parts is eliminated. You get increased production, improved quality at lower cost.

JENKINS

ENGINEERED PRODUCTS

Let a Jenkins representative show you how these superior metal products pay for themselves in finer performance!

Shorts and Remnants

Pension Parade

" . . . found the article 'Parade of Pensions' that was published in the May 1951 issue quite interesting and instructive . . . be worthwhile for us to make certain that all the members of our association have opportunity to read it . . . reprints might still be available. . . "

TED FORBES
Cot. Mfrs. Assn. Ga.
Atlanta

► For reprints, contact The Wyatt Co., 1029 Vermont Ave., N. W., Washington 5, D. C.

Orchids to Bill

"We like people to call upon us who are at once as considerate, cooperative, and competent as your representative, Mr. William K. Hoffman. . . . "

NAME WITHHELD

Branding Fluids

" . . . . with great interest 'Value of Scourable Sheep Branding Fluids in Wool Manufacturing' . . . . care to post to us a complete reprint or tear sheet. . . . "

DOREEN WILSON
Research Dept.
Crola Ltd
Snaith, Yorkshire
England

A Bit of Figuring

"Would you please send me tear sheets of the article 'Figure Your Own Filling Numbers' which appeared on pages 112 and 113 in the June 1951 issue."

ELLEN HICKEY
A. M. Tenney Associates, Inc.
New York

DOPE DRIVE

The current dope drive has hit South Carolina, and it would seem that employees at Celanese in Rock Hill will have to stop referring to acetone as "dope" or some of their chemical engineers are going to be victims of the drive.

A few weeks ago a cleaning establishment employee in a small town not far from Rock Hill found a note in the pocket of a pair of trousers sent in for a press job. To a regular fan of *Life*, the note was both obvious and ominous. It said, "Deliver dope to Bob Stover—he has cat."

The cleaning establishment employee lost no time in contacting the local police, but it took *considerable* time to convince the chief that "dope" at Celanese is acetone—CH_3COCH_3—and that "cat" was nothing more than a catalyst, just exactly what type was none of his business—something known only to Celanese and the Lord.

Public Relations

" . . . page 79 you listed some facts from a recent report by the Public Relations Committee of the Alabama Cotton Manufacturers Association . . . . would like to determine the source of these facts . . . . take this opportunity to tell you what a splendid job you are doing with TEXTILE INDUSTRIES . . . look forward reading each month."

ALVIN S. DAVIS
Dir. Industrial Relations
Callaway Mills Co.
LaGrange, Ga.

Enjoyable Color

" . . . have enjoyed reading your article, 'A Scientific Approach to Color' . . . June edition . . . "

G. R. THOMPSON
Research Associate, AATCC
Lowell Textile Institute

Ion Free

"Would you please send us two reprints of your article 'Ion Free Water' in the July 1951 issue."

F. LAHR
Tricot Div.
Holeproof Hos. Co.
London, Canada

BUSINESS BAD?—MAYBE YOU JUST NEED A VACATION

A salesman for one of our good friends (advertisers are always our good friends) was in to see us a few days ago, and he was beefing about a slow-up in business from the mills, and he was wondering just what was going to happen in the months ahead.

We reminded him that it was just about a year ago that he had paid us a similar visit, and we told him that if we had kept a record of his discourse it would have sounded very much like what he was saying now.

So we discussed the comparison of the times and the fact that each year there are summer letdowns, vacations, a large inventory situation, etc.; but then look at fall operations . . . when vacations are over and production plans are being made for several months ahead . . . when the goods start going through the pipelines to consumers at a faster pace, with inventories getting lower and buyers scrambling to place orders and mills building a backlog to the point where they refuse to quote any further ahead. And when we add the unknown increased amount of textiles to be required by the Armed Forces there is every reason to assume this fall will be a busy one.

Before he left our friend said that actually his business had been such that he had no reason to complain (which we were pretty sure of all along). But it occurred to us that maybe a number of salesmen have that sort of a "business letdown feeling" and may be passing it on to headquarters. And then some advertising managers get a little jittery about textiles, and human nature being what it is, they decide to cut down on their textile program.

That's the way it is, and the reason we are bringing it up is to point out that those who decide to "retrench" are doing so at the very time when employment and production will be picking up and the plans being made this fall will have a very definite bearing on supplier sales to the mills for months to come.

And we can't help but think at a time like this that as publishers we are very fortunate in having so many advertisers who have learned from experience that "all of the time is the time to advertise." You'll find them pretty solid folks in every way.—M. D.

Strong at every point

See for yourself how strong a needle can be. Check the butt, the beard, the shank of a Textile Spring-Beard Needle. Every step in the manufacture of Textile Spring-Beard Needles is carefully calculated to give you needles that are strong at every crucial point.

Strength is one of the many advantages you receive through Textile's quality controls—automatic and electronic—which constantly check each stage of production. Notice the results in better fabrics and lowered production costs.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting

Operation and maintenance data on

The Pin Drafter

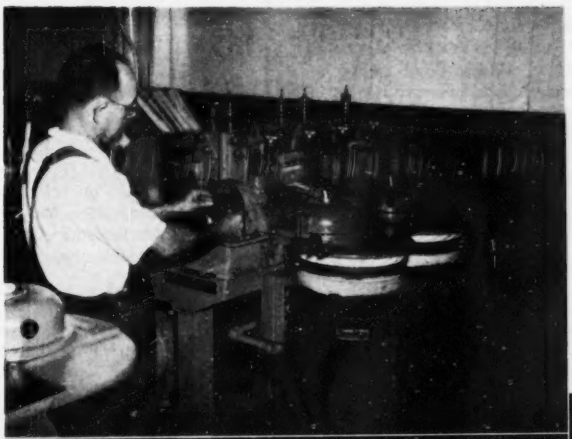
Staff Prepared

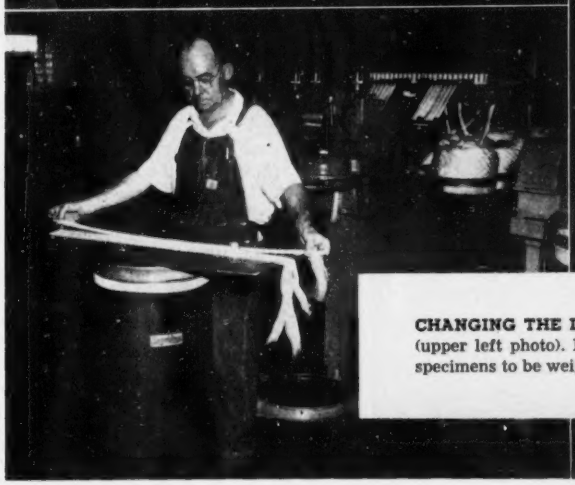
EXCLUSIVE

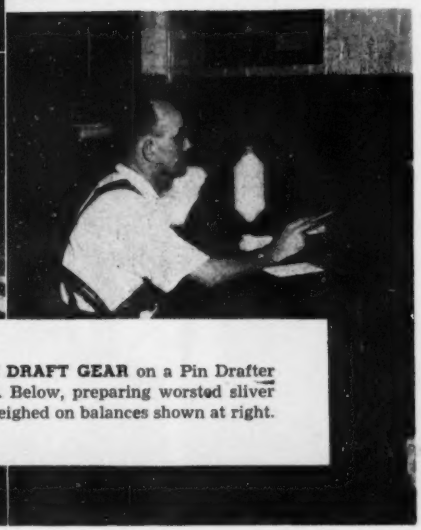
as reported by three mills spinning yarn on the "American" system of worsted manufacture.

PIN DRAFTING is relatively new to the "American" system of worsted manufacture, but the mills using this equipment have reached the point where they are able to give operation and maintenance data which have some meaning. The Pin Drafter is, in principle, very similar to drawing with intersecting gill boxes as used in the French system, as the single row, intersecting faller design is used. It has eliminated roll drafting in some

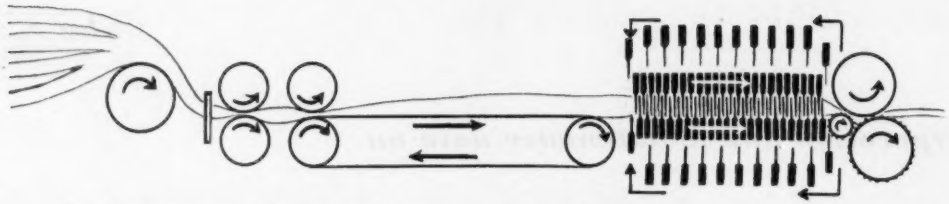
"Textile Industries" staff photos







CHANGING THE DRAFT GEAR on a Pin Drafter (upper left photo). Below, preparing worsted sliver specimens to be weighed on balances shown at right.



PIN DRAFTER'S PRINCIPLE OF OPERATION is shown in this sectional diagram. Slivers are moved from left by rolls and endless belt to a series of combs known as the faller set. The interlocking group of combs moves from left to right where each comb is struck up or down and returned to the rear of the faller set. Sliver is pulled from the combs by the rolls at the right, speed of which is normally six to ten times the forward speed of the combs.

mills using the American system, and in some it is used in conjunction with roll drawing.

The American system of worsted manufacture offers economic advantages in that it eliminates many of the expensive and slow processes of the French or the Bradford system. However, some mill men claim the American system's use of adapted cotton machinery, while speeding the processing, tends to reduce the quality of the product. Pin Drafters are designed to increase the quality while maintaining the speed advantage or even increasing it.

Although the use of pin drafting equipment is not limited to the American system, it is in this system that it shows itself to best advantage in both increased production and improved quality, and all of the mills whose experiences are given here are using this system.

These three mills have had Pin Drafters (Warner & Swasey) in operation for approximately three years.

Fibers Used. All three of these mills are using the Pin Drafters on a variety of fibers. Wool, rayon, nylon, and their blends are run in all three, and one mill is also running "Orlon" and Fiber V. There does not seem to be any considerable difference in the running characteristics of any of the fibers, and the machines will take staple lengths from a maximum of 6½-7 in. to a minimum of 2½ in. The fact that all of these different fibers may be run alone or in blends is important, for more and more worsted blends are being woven with synthetics.

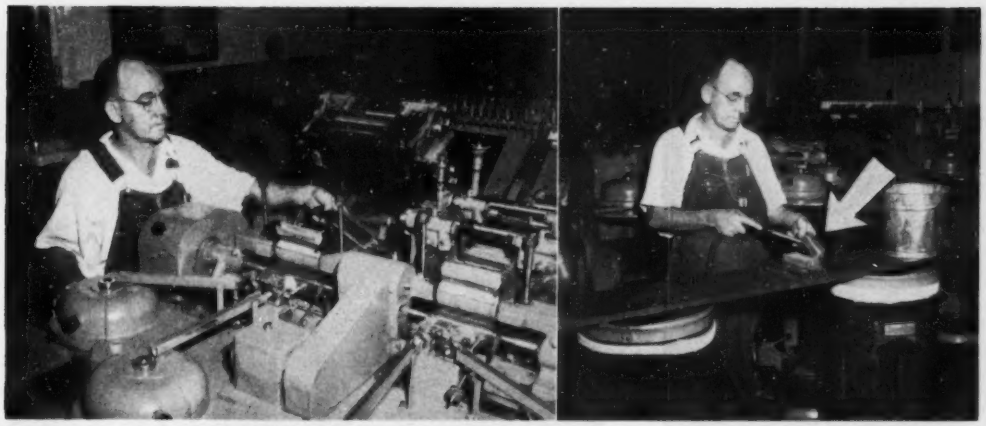
PRINCIPAL TEST applied to sliver produced on the Pin Drafter is for evenness. Here a laboratory technician tests worsted sliver variation with a Uster evenness tester. Device on table at extreme right is recording mechanism.

Sliver Variations. In these mills the principal test applied to sliver is for evenness. Two of the mills are using Uster and one is using Saco-Lowell testers. Evenness tests indicate that the yarns produced at the three mills are fairly consistent in this respect. One mill reported 10%-15% variation. One reported 7%-15%, and the third mill reported 11% on breaker, 12% on intermediate, and 18% on the finisher. They consider these variations to be good for worsted sliver produced by the American system.

Production. An accompanying table shows figures for production from Pin Drafters in each of the three mills. Note that both *Mill A* and *Mill B* produce about 1750 lb per delivery per week, while *Mill C* produces 1150 lb. The mill with the lower production is using fewer ends up in both intermediate and finisher, and this, no doubt, accounts for the lower output per delivery. However, even this lowest figure is extremely high for worsted drawing.

Efficiency of the Pin Drafters at each of the three drawing processes is shown in another table. The same table shows the number of ends up. While there is considerable difference in the efficiencies reported, it should be noted that efficiency figures are good at all mills.

Draft. Only one of the mills was willing to release the draft used on these machines. This is not entirely a matter of secrecy. The draft to be used is still a question and is open



CLEANING THE FALLER BARS is important. They are removed from the machine (left photo) and taken to a board mounted on two sliver cans in front of the machine (right). Faller bars are dipped in solvent in bucket shown at extreme right and then blown out with compressed air.

to more experimentation. No mill can say, at this time, that it has the final answer. *Mill A* is using a draft of 6.52 on breakers, 9.09 on intermediate, and 9.67 on finisher drafting. It is believed that the other two mills are using higher drafts at some stages.

Cleaning and Maintenance. Mill practice in cleaning and maintenance varies considerably, and each of the three mills feels certain its system is the best. It seems that all three have good schedules, and since these Pin Drafters are practically precision machines, they give little trouble as long as some regular schedule is followed.

Cleaning the faller bars is important. *Mill A* cleans them with a solvent every ten days. *Mill B* cleans them every week. *Mill C* cleans them on every lot change and at the same time blows out the frame. The fact that no blow pipe is ever used for cleaning except when all stock is out of the machine is emphasized.

Mill A and *Mill B* blow off the machine every 8 hours and at the same time wipe the machine and clean the coiler heads. *Mill C* uses this same 8-hour schedule for cleaning the coiler heads, but the machine is brushed rather than blown out. *Mill A* buffs the rolls every 100 hours. *Mill B* buffs every week. *Mill C* takes a light shaping cut off the rolls every two weeks.

In addition, *Mill C* schedules a complete overhaul and cleaning every six weeks.

Lubrication. Lubrication schedules vary almost as much as maintenance and cleaning schedules. Two of the mills grease the pressure fittings every two weeks. The third mill does this job twice a week—four times as often. The transmission oil is changed every 6 months by *Mill A*, every 2 weeks by *Mill B*, and every 4 months by *Mill C*. Similarly, the bearing boxes on the rolls are greased twice weekly by one mill, weekly by another, and once every two weeks by another. They agree fairly well on the oiling of the coiler head and its calender rolls. Two of the mills schedule this for every shift, and the third mill schedules it for every 24 hours.

There is apparently no logic to these variations . . . each mill has set up the schedule it likes best. For example, the mill which changes the transmission oil only once in six months is the same mill which greases the roll bearings two to four times as often as the other mills. It is not a question of one of the mills believing in a lot of lubrication and another mill

TABLE I

Pin Drafter Production, Pounds per Week

Mill	Deliveries	Operators per Shift	Production per week—M lb	Pounds per delivery per week
Mill A	34	4	55-65	1,760
Mill B	50	5	85-90	1,740
Mill C	130	9	150	1,150

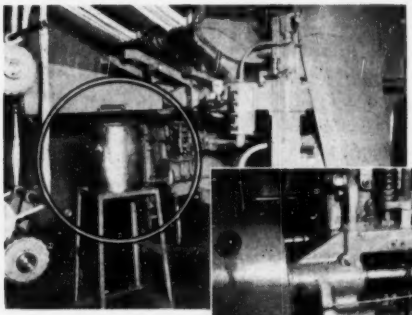
TABLE II

Efficiencies and Ends Up

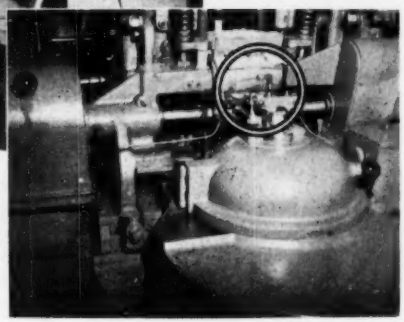
Mill	Efficiency			Ends Up		
	Breaker	Intermediate	Finisher	Breaker	Intermediate	Finisher
Mill A	85%	85%	90%	4	6	4
Mill B	70%	75%	75%	4	6	6
Mill C	73%	88%	85%	4	4	2

CHANGING OIL in the Pin Drafter transmission (above). Below, lubricant is applied to grease-lubricated bearings equipped with pressure fittings.

COILER HEADS ARE CLEANED every eight hours at all three of the mills participating in this survey.



RESERVOIR and pump are visible in circle on left photo of rear of machine. Below, dispensing nozzle mounted behind trumpet on the front of the machine.



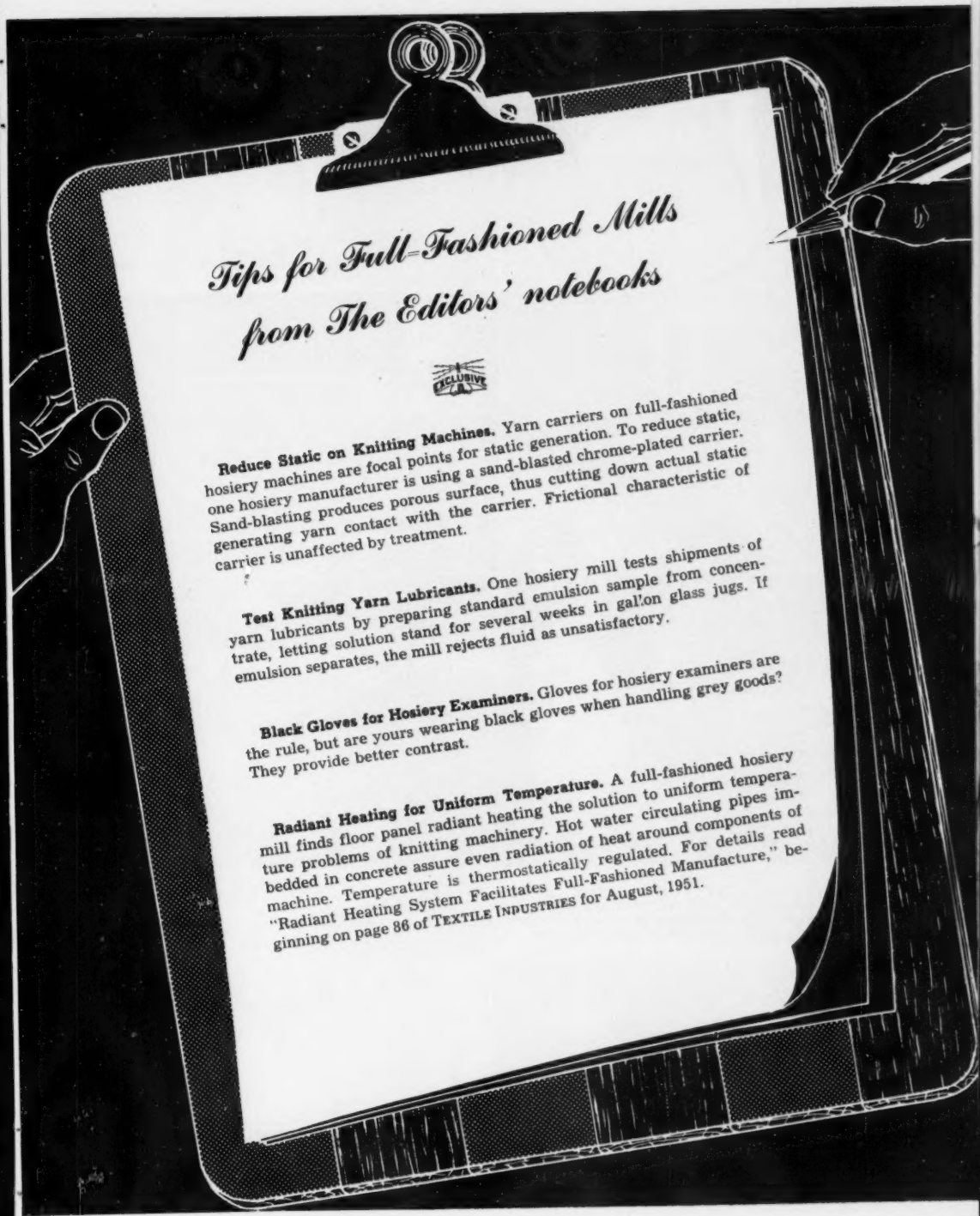
FOR TINTING and applying emulsion to the sliver, breaker Pin Drafters have been equipped as shown in these two photos.

believing in less, for the mill with the shortest lubrication interval at one location is the same mill which has the longest interval at another.

Special Features. All three of the mills have added reservoirs and pumps to feed tint and emulsion to the trumpets of the breaker machines. All of the machines in all of the mills are equipped with signal lights to show when they are down; the lights are standard equipment on all Pin Drafters.

Two of the mills are using safety screens across the space at the rear of the fallers where the stock enters. One of these mills had a bad accident resulting from the removal of the guard at stock-entering side. The operator went to sleep while guiding stock toward the fallers and her fingers were caught. She ran her hand too far in, and the pins of the fallers caught her fingers and shredded them. The simple screen over this approach to the fallers, provided for just such cases, should always be in place to prevent such an accident. There does not seem to be any other danger point about the machine.

From the experiences of these mills, it would seem that the Pin Drafter is an important addition to the American system of worsted manufacture. Not only does it speed production, but it produces an even sliver and produces it efficiently.



Tips for Full-Fashioned Mills from The Editors' notebooks

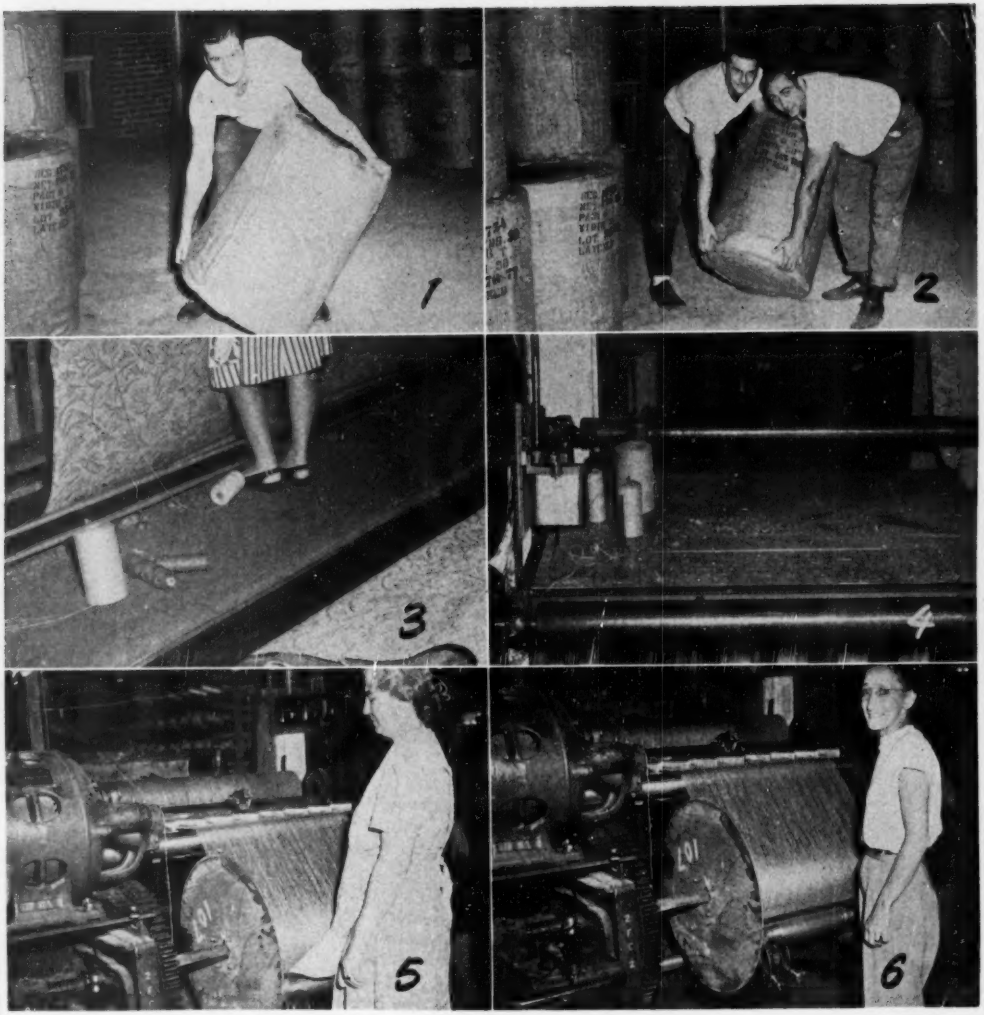
EXCLUSIVE

Reduce Static on Knitting Machines. Yarn carriers on full-fashioned hosiery machines are focal points for static generation. To reduce static, one hosiery manufacturer is using a sand-blasted chrome-plated carrier. Sand-blasting produces porous surface, thus cutting down actual static generating yarn contact with the carrier. Frictional characteristic of carrier is unaffected by treatment.

Test Knitting Yarn Lubricants. One hosiery mill tests shipments of yarn lubricants by preparing standard emulsion sample from concentrate, letting solution stand for several weeks in gallon glass jugs. If emulsion separates, the mill rejects fluid as unsatisfactory.

Black Gloves for Hosiery Examiners. Gloves for hosiery examiners are the rule, but are yours wearing black gloves when handling grey goods? They provide better contrast.

Radiant Heating for Uniform Temperature. A full-fashioned hosiery mill finds floor panel radiant heating the solution to uniform temperature problems of knitting machinery. Hot water circulating pipes imbedded in concrete assure even radiation of heat around components of machine. Temperature is thermostatically regulated. For details read "Radiant Heating System Facilitates Full-Fashioned Manufacture," beginning on page 86 of TEXTILE INDUSTRIES for August, 1951.



(1) Wrong—Don't lift heavy load alone. (2) Right—Get help. (3) Wrong—Don't clutter work platform. (4) Right—Keep materials in proper place. (5) Don't wear loose clothing—it may catch in machinery. (6) A wise operator wears only practical clothes to work every day.

(7) Wrong—Don't throw hand trucks just anywhere. (8) Right—Do pile them neatly. (9) Wrong—Don't lift roll of felt with truck. (10) Right—Do lift roll of felt after removing from truck—it's easier to unload. (11) Tow-trains were not meant to be moved by hand. (12) Tow trucks are designed for hauling loads—use them.

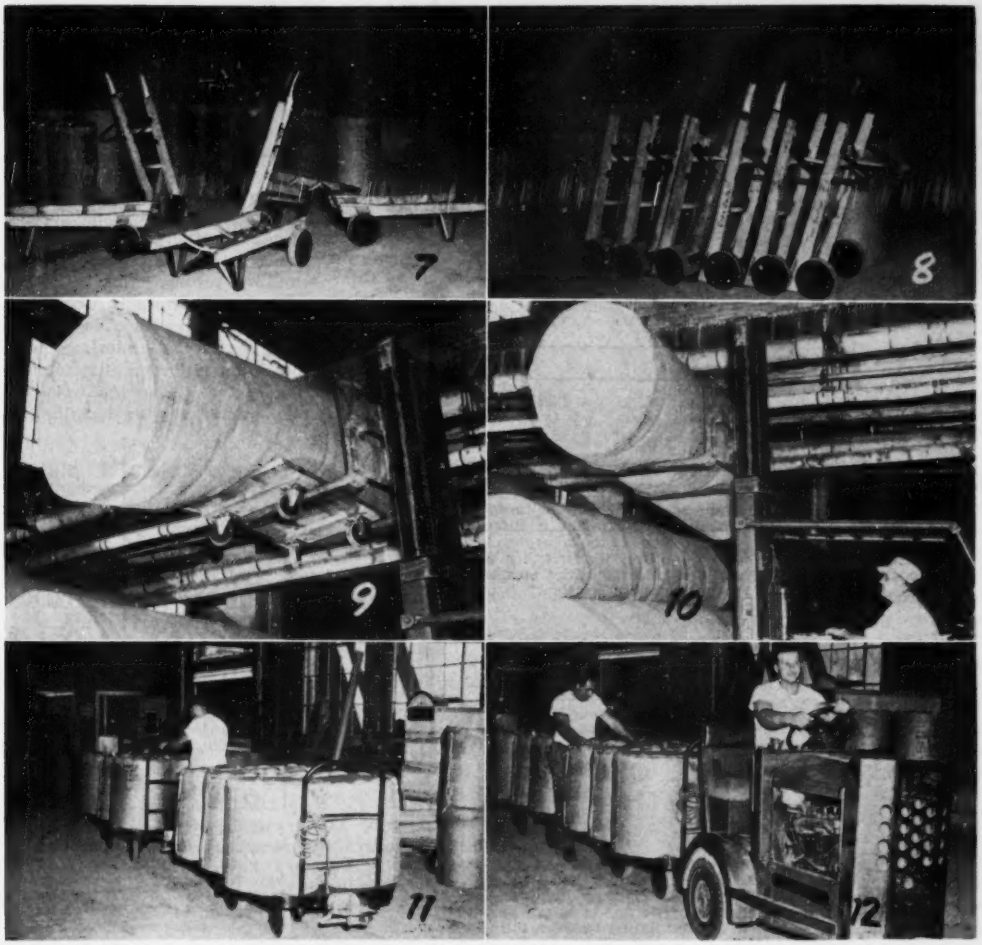
Photos Show the Safe Way

to employees at Masland carpet plant

Installment No. 1 of a series

EXCLUSIVE

Photos reproduced by permission of C. H. Masland & Sons



Practical Terry Weaving and

THE TURKISH or terry towel is today considered a part of every home. It has gone far beyond its inventor's idea of a cloth whose sole use was to dry oneself. Today it is a highly ornamented article of many colors and designs. The consumer demands that it match the color scheme of the home. In addition it is used for wearing apparel, window curtains, beach wear, and as a filter cloth for oil.

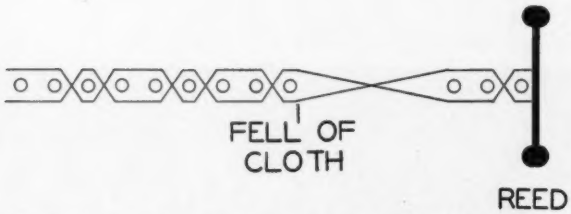


FIG. 1. Diagram showing the ground weave only for the three-pick terry weave. At the left are shown nine picks previously inserted in the cloth and at the right are the three picks of the weave cycle awaiting the beat-up. Note that the ground ends weave as a 2-1 warp rib weave.

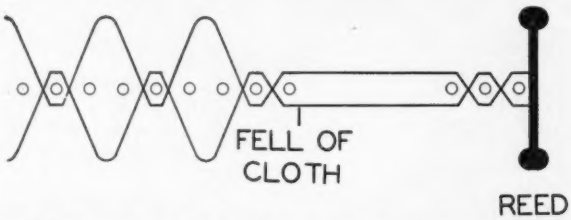


FIG. 2. Diagram showing the pile weave only for the three-pick terry weave. At the left are shown nine picks previously inserted in the cloth and at the right are the three picks of the weave cycle awaiting the beat-up. Notice that the pile end over the first pick will form a loop on the top while the pile end under the first pick will form a loop on the bottom of the cloth.

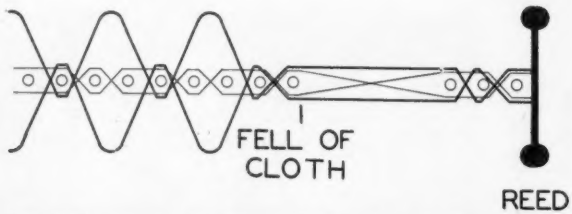


FIG. 3. Diagram showing the combined ground and pile weaves for the three-pick terry weave. At the left are shown nine picks previously inserted in the cloth and at the right are the three picks of the weave cycle awaiting the beat-up. The pile ends are shown slightly heavier to aid the reader in differentiating between the two weaves.

Despite the fact that there have been many improvements in the present day terry looms, the basic weave construction and the method of forming the loops has not changed in the century since this fabric was first introduced.

There are three essentials necessary for the production of terry cloth:

1. The correct interlacing of the threads.
2. The use of two warps and their correct tensioning.
3. Mechanical movement of the reed position during weaving so that the filling is beat-up to the fell of the cloth only after every three picks.

These three essentials must be correlated and timed correctly if the terry loops are to be formed as desired. If any one of the three is not correct, a ragged piece of cloth will result.

Terry cloth is really a combination of two cloths. The bottom warp (or ground) interlaces with the filling to form a firm foundation texture. The top warp (or pile) interlaces with the filling to

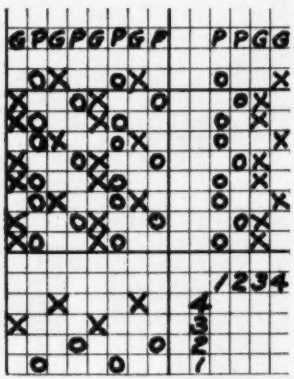


FIG. 4. The weave, drawing-in draft, and chain pegging plan for a plain three-pick terry to be woven on four harnesses on a cam loom. Raisers of the ground weave are shown by "X", and raisers of the pile weave are shown by "O".

Designing

By T. HARGREAVES
Superintendent, Caldwell Linen Mills (Canada)

Article 1

EXCLUSIVE

form the loops. Because the top warp, which forms the loops, uses much more yarn than the bottom warp, it can readily be seen why two warps are necessary. The bottom or ground warp occupies the usual position in the loom, and the pile warp is mounted in special brackets over the bottom beam.

Plain terry cloth has the loops evenly and equally distributed over the entire face and back of the fabric and can be woven on as few as four harnesses.

Fancy terry cloth with figured designs and/or fancy borders will require a more complex loom equipped with a dobby head or a full harness Jacquard head or both.

Figure 1 shows a diagram of the ground weave of a regular three-pick terry. It will be seen that the ground warp interlaces only once with the three picks of the weave cycle. The fact that these ends are very heavily tensioned and that there is only one interlacing of these ends with the three picks enables the three picks to be slipped along these ends when the beating-up takes place. It will also be seen that the ground ends cross between the second and third picks and also after the third pick before the first pick of the new cycle. This manner of crossing serves to lock the three picks to the fell of the cloth after beating-up, thus preserving the newly formed loops and the foundation texture.

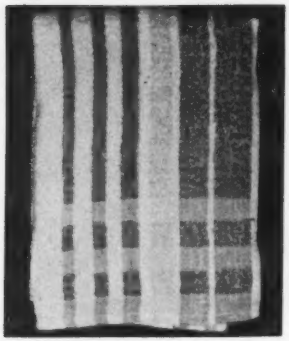
Figure 2 shows a diagram of the pile weave of a regular three-pick terry. It will be seen that the pile warp interlaces twice in the three picks of the weave cycle. The manner in which the pile ends weave with the first pick of the weave cycle determines where the loop will be formed. If the pile end is over the first pick, the loop will be formed on the face of the cloth. If the pile end is under the first pick, the loop will be formed on the back of the cloth.

The pile warp is very lightly tensioned or is equipped with a special let-off motion which will deliver the required amount of warp to form the desired height loops when beat-up takes place. As the three picks are moved forward to the fell of the cloth, they slide over the tightly tensioned ground ends but carry the lightly tensioned pile ends with them—thus forming the loops. As can be seen from the diagram, the pile end is held in place after beating-up by the pressure of the three picks so there is not much danger of its being pulled out in use.

Figure 3 diagrams the ground weave and the pile weave combined to give the full three-pick terry weave.

Figure 4 shows the weave, drawing-in-draft, and chain-pegging

LOOM EQUIPMENT needed for weaving terry towels, more common types of designs, how to design fancy borders, building indicator chains, calculation of weight of towels and let-off gears required, defects in weaving, production, etc., are other subjects discussed in this six-part series.



PLAIN TERRY. This is a simple style of plain terry towel woven on cam looms.

plan for a plain terry to be woven on four harnesses on a cam loom. (Raisers of the ground weave are shown by "X" and raisers of the pile weave are shown by "O".)

Although this same weave and drafting plan can be used on a dobby loom, it is much better to draw the ground ends on four harnesses—making a total of six harnesses—when using a dobby head loom. The main reasons for this procedure are to spread the heddles, thus allowing freer movement of the ends, and also to avoid having to use extra strong springs to pull down the heavily weighted ground ends.

If the pile warp is arranged one colored end and one white end throughout, then the weave and drafts in Fig. 4 will produce a towel having colored loops on the face and white loops on the back. By reversing the manner in which the pile ends weave with the first pick of the three-pick terry weave cycle, the positions of the colored ends and white ends may be reversed. This is a very easy way to form a border.

Taken one step further and allowing the pile ends to weave under tension for a few picks between this reversing (forming what is known as plain tabs) the border formed in this manner is more pronounced and forms a pleasing effect.

Figure 5 shows the layout of a sample towel using the foregoing effect of colored loops on face and white (or different color) loops on back with the border formed by narrow plain tabs and reversed colors.

Figure 6 shows the drawing-in-draft and chain drafts for the two cylinders. This type of design should be woven on a double cylinder dobby, otherwise the pattern chain would be too long and unwieldy. Note that the sections designated as plain tabs actually use the same weave as the terry sections. The difference is that the pile warp is held under tension and the reed held tightly to enable the beating-up after every pick.

(In the next article in this series the author will discuss the special loom equipment needed to weave terry cloth as well as some of the more common types of designs employed.)

FIG. 5. Diagram showing an example of a terry towel having colored pile on the face and white pile on the back. The border is formed simply by reversing the pile at either end of the towel. This towel (shown with the body broken for dimensional purposes) would contain 1782 total picks and would be approximately 44 inches long and 24 inches wide from the loom. The ground warp and filling are both all white; the pile warp is arranged 1 color—1 white.

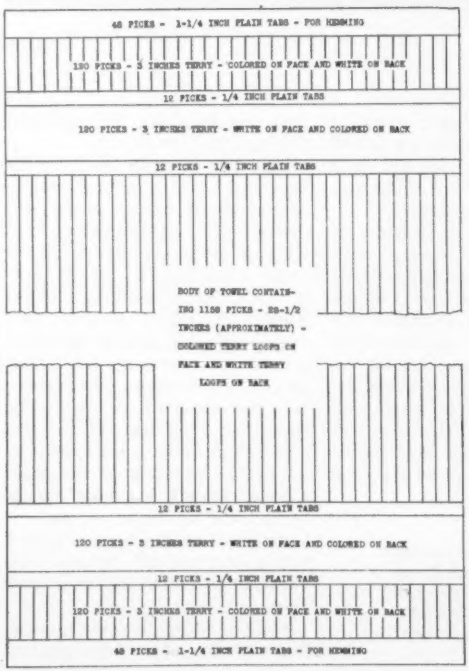
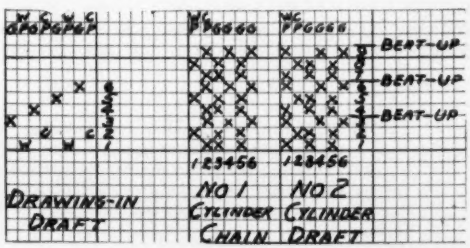

48 PICKS - 1-1/4 INCH PLAIN TABS - FOR HEMMING
120 PICKS - 5 INCHES TERRY - COLORED ON FACE AND WHITE ON BACK
12 PICKS - 1/4 INCH PLAIN TABS
120 PICKS - 5 INCHES TERRY - WHITE ON FACE AND COLORED ON BACK
12 PICKS - 1/4 INCH PLAIN TABS
BODY OF TOWEL CONTAINS-
1158 PICKS - 22-1/2
INCHES (APPROXIMATELY) -
COLORED TERRY LOOPS ON
FACE AND WHITE TERRY
LOOPS ON BACK
12 PICKS - 1/4 INCH PLAIN TABS
120 PICKS - 5 INCHES TERRY - WHITE ON FACE AND COLORED ON BACK
12 PICKS - 1/4 INCH PLAIN TABS
120 PICKS - 5 INCHES TERRY - COLORED ON FACE AND WHITE ON BACK
48 PICKS - 1-1/4 INCH PLAIN TABS - FOR HEMMING

FIG. 6. The drawing-in draft and chain drafts for the two cylinders to weave the towel shown in Fig. 5.

Arrangement of Cylinder Selector Chain

48 picks—plain tab—Cylinder No. 1 (retard last 4)
120 picks—colored terry face—Cylinder No. 1
12 picks—plain tab—Cylinder No. 1 (retard last 4)
120 picks—white terry face—Cylinder No. 2
12 picks—plain tab—Cylinder No. 1 (retard last 4)
1158 picks—colored terry face—Cylinder No. 1
12 picks—plain tab—Cylinder No. 1 (retard last 4)
120 picks—white terry face—Cylinder No. 2
12 picks—plain tab—Cylinder No. 1 (retard last 4)
120 picks—colored terry face—Cylinder No. 1
48 picks—plain tab—Cylinder No. 1

1782 Total Picks



SEWING OPERATIONS RELOCATED. Many types of sewing operations may be relocated around the finishing room according to flow patterns which are most efficient for the knitted garment in process. Here, two operators are using blind stitch machines arranged around convenient electric feedrail.

Electric Feedrail

facilitates knit goods finishing room flow

Staff Prepared

EXCLUSIVE

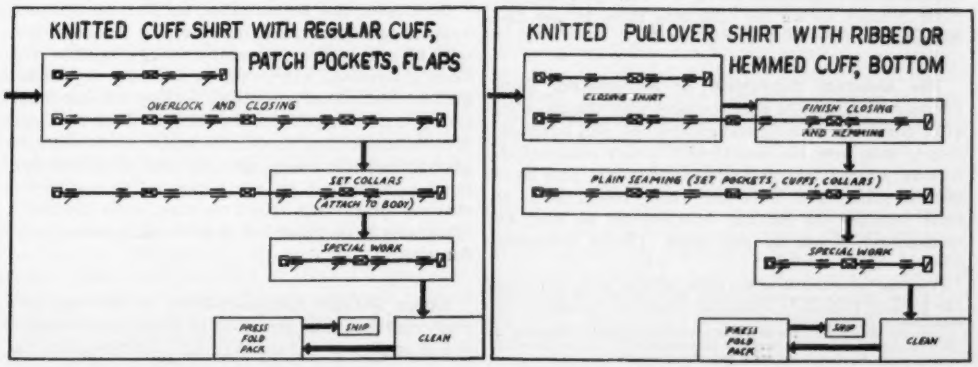
CONTINUOUS flow of knitted articles through the finishing department, economy of machines and sewing personnel, and balanced production are some of the advantages which Summit Mills Corp. is realizing from an electric feedrail installation. At the Philmont, N. Y., plant, four parallel feedrails suspended from the ceiling permit maximum flexibility in determining the proper machine location for a particular garment.

No matter what layout is planned for a style, a convenient source of electric current is assured every sewing machine. The mobility afforded sewing units by the feedrail system allows rapid relocation of machinery without seriously interrupting production. The most efficient arrangement for a progressive sequence of sewing operations can be obtained in that machine sites are not restricted to availability of an electric outlet.

In effect, by employing electric feedrails a small mill can achieve the benefits of straight line systems usually found only in plants with a mass output.

SEWING MACHINE LAYOUT for a knitted cuff shirt with regular cuff, patch pockets, and flaps. Garments in process are received from the plain seaming department where collar and pocket work are also conducted. Overlocking and closing operations are performed in the vicinity of the first two lines of electric feedrail in the finishing room. The garment then passes along to subsequent sewing operations where collars are attached to body, and button work is completed.

TYPICAL FLOOR PLAN for a knitted pullover shirt with ribbed or hemmed cuff and bottom. For this garment, all electric feedrails are used and various fabricating operations are located around the room in such a manner as to allow continuous flow.



*Article 4**

EXCLUSIVE

By RAMON PARKS

Planning Your Work
Delegating Responsibility

WE ARE all familiar with the supervisor who is always rushing here and there, but who never seems to be able to get his work done. An emergency arising almost gives him a nervous breakdown. On the other hand, we know overseers who never seem to be in a hurry. Their jobs appear always to be under complete control. A breakdown or a rush order is taken in stride. The overseer can leave for a day or for a week, yet the department functions just as smoothly as if he were present on the job.

We believe that the difference in the two types of overseers is not so much the inherent ability, but in their training (however acquired) in work planning and delegating authority. Though these *skills*, and we think they could be called such, might be discussed in separate articles, we feel that they go hand-in-hand, so we are including them in one discussion.

The Assistant Supervisor or Secondhand. Each overseer should have a dependable *understudy*, who, after adequate training and experience, will be qualified to take over the department in any eventuality. In a very large department this individual may have overall supervision over the other secondhands or shift foremen. In smaller departments he may be secondhand of one of the shifts. (Some overseers prefer to train their assistants, and possible successors, on either the second or the third shifts, where they will be more or less on their own and can thus demonstrate their capability by the way that they handle situations which arise when they cannot call upon someone for advice, but must rely on their own judgment.)

In order to enable his assistants (this includes not only the assistant overseer, but all of the secondhands or shift foremen) to do their best work, and to give the cooperation which he expects, there are certain things which the overseer must do. Our list is not necessarily complete, but some of these things may be summed up somewhat as follows:

Give Adequate Information. (a) Furnish complete data on cost, waste, and supplies; (b) Acquaint men with all mill policies, especially as regards labor relations, promotions, safety, public relations, retirement, etc.; (c) Furnish any available data on market conditions, orders, delivery dates, etc.; (d) Pass on to the men customer compliments as well as customer complaints; (e) Give information, as soon as official permission is granted, on any personnel or engineering changes which may affect the men, even indirectly. (This may have the effect of preventing some harmful gossip.)

Assign Definite Responsibilities. (a) Be very definite regarding your policy as to hiring and discharging of employees. (If the mill has a written labor con-

*The first three articles of this series appeared in the June, July and August issues, respectively. Article 1 had as its sub-title "Hiring and Training"; Article 2, "Employee Relations"; Article 3, "Cooperation."

Reprints of individual articles will not be available. However, if the demand for the entire series is large enough, it will be placed in booklet form. Write the editors if you are interested.

tract, this will probably be taken care of, otherwise the overseer will have to formulate his own policy.) (b) So far as possible, assign each secondhand certain responsibilities regarding machinery maintenance, housekeeping, production control, safety, supply inventory, firefighting equipment, quality control, humidity and temperature control, and so on.

Although the overseer will have certain definite responsibilities of his own, he will make sure that at least one other person can perform these duties in the event of the overseer's absence from the job.

The good overseer will want to stay in personal touch with his employees by chatting with them occasionally, listening to their complaints, suggestions, etc., but he will wisely leave the management of the employees to his assistants. If it is necessary for the overseer to issue personal instructions to operatives, this should be done, if possible, in the presence of the secondhand in charge of the shift. If such orders or instructions have to be given in the absence of the secondhand, he should be advised at the earliest possible moment to prevent his issuing conflicting orders.

If an assistant makes a mistake—and he certainly will if he does anything—try to help him correct the mistake, but back him to the limit. Encourage your assistants to rely on their own judgment and *do something* rather than to run to you with every little problem.

Let your assistants know that in the event of a serious error—you, the foreman, will assume the responsibility so long as he acted in good faith and according to the best information available. Naturally you will not expect him to make the same mistake twice. Be certain that the secondhand gets due credit for any good work that he does or for any worthwhile suggestions.

The writer once worked as secondhand for an overseer who practiced the things that we have just been talking about. He would sometimes call up from home and say that he was going out of town for a couple of days . . . and this without making any special preparation, or issuing any special instructions as to what should be done in his absence. He expected his assistants to keep so well informed as to what was going on that they could take over without such instructions. This kind of training will develop your assistants as nothing else will.

Planning Personal Time. The successful overseer will plan his personal time so that he will not have to fuss and fume to get things done on schedule; he also should have a margin of safety time to take care of the extras that may come up. Here are a few things that we think will help, with a short discussion of each:

Be Punctual. Be on time or a little ahead of time in the morning. This sets a good example for the employees and for the assistants. If there is a third shift the overseer thus makes himself available in case some of the third shift operatives have problems they want to get off their chests.

Avoid Delaying Decisions. It is never wise to put off making decisions, regardless of how difficult or distasteful they may be, any longer than it takes to get all of the facts together and to determine the possible effects of such decisions. These things have a way of piling up on one. Some overseers try to shrug a distasteful decision off, saying, "Oh, well, it will work itself out!" This is mostly wishful thinking, for the thing will keep bobbing up to plague him until he does something about it.

Make Plenty of Notes. Unless your memory is excellent it is necessary to make plenty of notes. Always carry a note book and jot down items that occur to you as needing attention, either at once or sometime in the future. A calendar pad or diary note book in the office will enable the overseer to schedule items even months ahead.

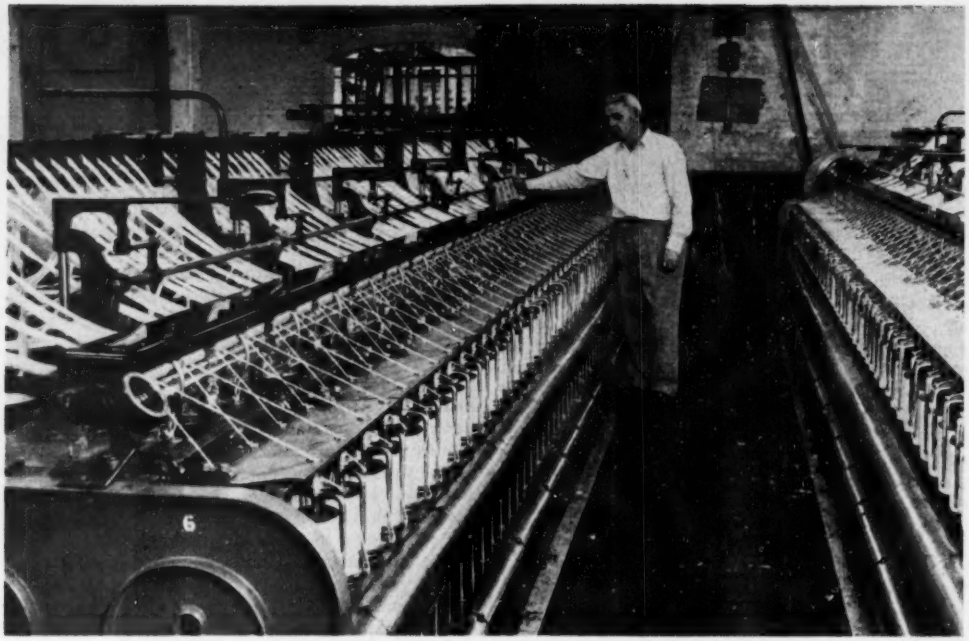
Before going to the main office, the supply room, or the machine shop, jot down all of the things necessary to check on, and schedule as many things on one trip as possible. This saves walking, thus reducing personal fatigue, and saves time that could better be spent in the department.

Avoid Unnecessary Book Work. It will doubtless be necessary for the overseer to do some of his office work, but if the department is large enough to absorb the cost of a clerk then by all means let this person do all of the routine record keeping and making of reports, thus freeing the overseer and assistants for supervisory duties. Insist that an adequate filing system be installed so that information can be located with a minimum of lost time.

Reading. Some reading will of necessity have to be done on the job, but the most satisfactory and profitable reading can be done at home. This does not mean that an overseer must spend every evening reading and studying, but he should schedule some time each week, where, in the quiet of his den or in a corner of the living room, he can post himself on matters pertaining to his work and on related subjects. A wealth of material is available at a very nominal cost. In fact many progressive companies subscribe to textile magazines, such as TEXTILE INDUSTRIES, for all of the foremen and other key personnel. Studies in such subjects as mathematics and vocabulary building are not without their reward.

Avoid Long-Winded Conversations. This is much easier said than done, but in every organization there is at least one individual who cannot seem to tell anything without going into the minutest detail, besides sidetracking a dozen times, so the overseer who has anything to do should shun this type of individual as he would the measles. With this thought in mind the

(*Continued on page 261*)



DRAFT ranges from 4.4 to 5.7 on current work at Mallison, and twist per inch is 3½ on the two special frames which accommodate braider bobbins. 50-grain card sliver is made into .74s to .94s yarn, and each frame has 104 spindles. The plates which rest on the spindle tops each contain eight bushings.

Unique Roving Twisters

relieve backwinding operation at Mallison

Staff Prepared

EXCLUSIVE

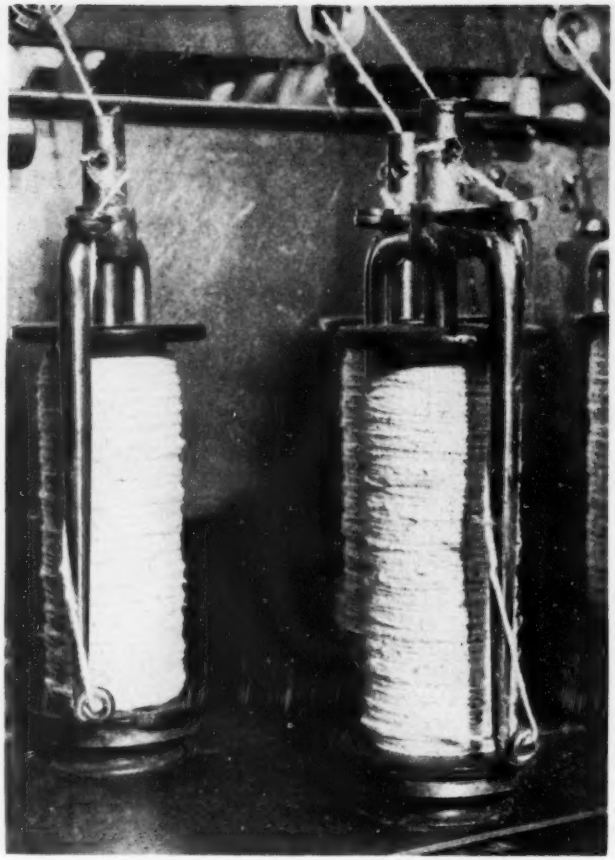
Specially designed 8 x 4 roving twisters make hard twist yarn and put it directly onto braider bobbins. Savings effected on labor, waste, bobbins, power, floor space, and boxes.

SHORT BOLSTERS and small diameter spindles are employed on the special frames because of the small bore of the braider bobbins. Note the bronze bushings which serve as bearings for the spindle tops. Length of the bolsters is approximately two inches.

MALLISON Braided Cord Co., Athens, Ga., a division of Puritan Cordage Co., formerly used 9 x 4½ roving frames to make hard twist single yarns ranging from .74s to .94s from card sliver. The yarn was wound onto the roving bobbin and had to be backwound onto braider bobbins for use on New England Butt Co. 12-carrier braiders.

In purchasing new machinery and modernizing the mill, every effort was made to reduce the number of operations without sacrificing quality standards. The backwinding operation in transferring yarn from roving bobbins to braider bobbins was a target for improvement. L. J. Glass, Jr., general manager and vice-president of the mill, called in Saco-Lowell engineers who designed an 8 x 4 roving twister which makes hard twist yarn and puts it directly onto the braider bobbins, thereby eliminating the backwinding.

Special Features. Two of the special roving frames have been in operation at Mallison since February 1950, and results have been gratifying. The unique frames have several features which differ from standard roving frames in that the design was made to utilize the braider bobbins. The length of bolsters is approximately two inches. It was necessary to equip the frames with short bolsters and small diameter spindles because of the small bore of the braider bobbins. In view of the small diameter spindles, it was necessary to use bronze bushings (fixed in a hold down plate) which serve as bearings for the spindle tops. The bearings support the



BRAIDER SPOOLS are used instead of standard bobbins on the frames. The braider spools measure 3¼" x 6 3/16". The same length traverse is made each time with no taper at the flat ends of the braider bobbins. The flyers do not have hollow legs, and yarn is wrapped around the outside and through a pigtail at the end.

tops of the spindles and prevent excessive vibration of the spindles and the heavy braider bobbins. The high twist inserted in the roving produces enough pull to cause undue strain on the spindle top, were it not for the hold down plate and bronze bushings.

The frames make the same length traverse each time with no taper at the flat ends of the braider bobbins; therefore no builder motion is required. The flyers do not have hollow legs but have yarn wrapped around the outside and through a pigtail at the end. Yarn can be wrapped around either side of the pigtail. With the foregoing exceptions the frames are like a conventional fly frame. A standard 3-roll drafting section is employed, and the roving is made into clothes lines upon leaving the special frames.

Savings Effected. Production is the same as on regular roving bobbins except that the backwinding operation has been eliminated. The improved efficiency has been aided by relieving all winding equipment, and the labor of one person is saved—this operator formerly took care of backwinding. Savings are effected on other items including: waste, roving bobbins, power, and additional odd labor. Floor space is conserved also. Fewer boxes are used, and there is less handling throughout.

The initial cost of the frames was somewhat more than a conventional 8 x 4 roving frame because of the special features, according to R. A. Stetson, mill superintendent. The mill was actually in need of new roving frames, and the special frames were purchased in lieu of the regular type.

On current work the frames draft from 4.4 to 5.7, and twist per inch is 3½ on the two special frames. A 50-grain card sliver is made into .74s to .94s yarn, and one person operates the two frames and two slubbers also. Each frame has 104 spindles. The stock being run is a good grade of one-inch strips.

Other Applications. The Louisville, Ky., plant of Puritan Cordage Co. has three of the special frames, and there are some in South America; however these frames are rarely found in the U. S., and there may be many other advantageous applications for a frame of this type, possibly with additional modifications.

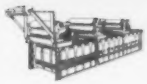
Conversion Parts List

A standard 8 x 4 roving frame may be converted to a hard-twist roving frame similar to the ones in use at Mallison. The following parts have special features and must be installed:

- spindle gears
- bobbin gears
- bolsters
- flyers
- hold-down plate with bronze bushings

The twist constant must be changed; therefore it is necessary to have twist gears to accommodate the high twist inserted in this instance.

Textile Industries *presents*—



Tips on Wet Processing

In This Section

AATCC Promotes
AATCC Convention
Compressive Shrinking
Printing
Warp Sizing
Hosiery Dyeing
Resin on Rayon
Continuous Bleaching
Yarn Dyeing
Instruments
Mill Defects

Staff Prepared

EXCLUSIVE

This section was prepared by the editors after contacting reliable sources in the textile industry. Where positive statements appear in condensed version, or where contradictory statements are included, they are opinions within the industry.

IF YOU, as a member of the textile industry, have anything to do with wet processing of textiles, you are part of a huge industry—and you are in a section of the industry on which the rest of it leans heavily.

It is a good bet that before Mr. or Mrs. Public, Sergeant or Miss Armed Forces Member, or industry itself uses the textile product, it has gone through some type of wet processing; the bet is good irrespective of the fiber or the end use; and whether the product be a silk evening gown or a mule collar.

For example, over six thousand millions yards of cotton woven goods alone are bleached, dyed, or printed in this country. Other fibers and other textiles bring the total considerably higher, and many textiles are wet processed more than once.

The term "wet processing" covers much territory (some grey goods mills believe wet processing will also cover a multitude of their sins). Whether your business is preliminary processing (e.g., wool scouring, silk degumming, treatment of the hard fibers), the intermediate processing (e.g., warp sizing, wet twisting, full-fashioned knitting), the final processing (e.g., dyeing, bleaching, finishing, printing, coating, compressive shrinking, glazing), or the chemical modification of the fiber or product, the consumer demands your best and your organization requires it to remain competitive.

Wet processing has, in all probability, created increased consumer demand for your product; and wet processing of a competing product may have made your own obsolete.

The credit for progress in wet processing must go to a family of cooperators—not to an individual class of operators:

To the researchers in both textile processing plants and in the supply organizations; to the machinery manufacturers for their continued efforts toward improvement of physical equipment; and to the practical man in the plant who, in the final stage, must convert an idea into production methods and deliver the product.

Praise be to all for their enterprise—and for their cooperation and patience with each other! — Eds.

—and congratulates AATCC on its 30th Anniversary

In Wet Processing - - -

AATCC Promotes Increase of Knowledge

THE TEXTILE industry has come a long way in the last quarter century. If progress has been exceptional in the development of machinery and in the improvement of primary processing methods, it has been phenomenal in the field of textile chemical research and wet processing.

Much of the credit for research developments in the wet processing end of textiles goes to a group of men who have bound themselves together with a common aim:

To promote increase of knowledge of the application of dyes and chemicals in the textile industry; to encourage in any practical way research work on chemical processes and materials of importance to the textile industry; and to establish for the members channels by which the interchange of professional knowledge among them may be increased.

The group is called the American Association of Textile Chemists and Colorists; its common aim has been good.

Whether operating in peace or war, both the national interests and the interests of the textile industry are well served by this association through its own research programs and through its cooperation with other research-minded organizations.

This year AATCC celebrates its 30th Anniversary; we wish it well.—Eds.

Highlights in History of AATCC

1921 AATCC founded in Boston with 271 charter members.

1923 First Yearbook published.

1927 First full-time research associate employed.

1929 Association incorporated in Massachusetts.

1931 Student membership begun.

1940 First Intersectional Contest.

1943 Olney Medal instituted.

1945 Publication of a new Color Index voted.

1949 Annual awards to leading students begun.

Local Sections

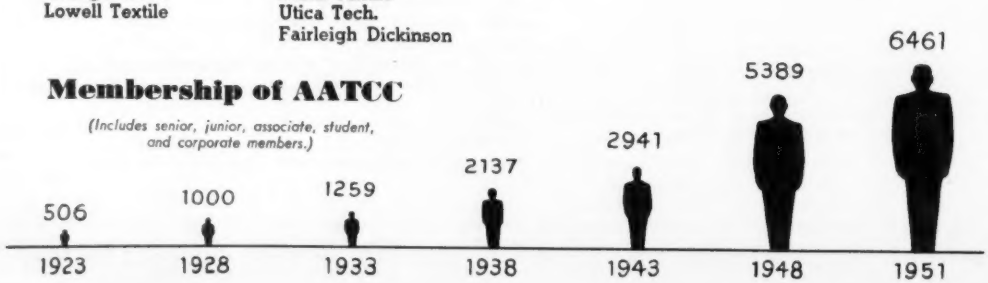
Hudson-Mohawk
Mid-West
New York
North New England
Pacific Northwest
Pacific Southwest
Philadelphia
Piedmont
Rhode Island
South Central
Southeastern
West New England

Student Chapters

Bradford Durfee
Clemson College
Georgia Tech
Lowell Textile
New Bedford
N. C. State
Phila. Textile
Utica Tech.
Fairleigh Dickinson

Membership of AATCC

(Includes senior, junior, associate, student, and corporate members.)



AATCC Annual Convention

New York, October 17--19

FOCAL POINT for wet processors of the textile industry will be the 30th Annual Convention of the American Association of Textile Chemists and Colorists, to be held in New York City the dates of October 17 - 19th, 1951.

Advance information indicates that it will be the largest convention ever from the standpoint of attendance, and it definitely will be the largest exposition ever sponsored by the association.

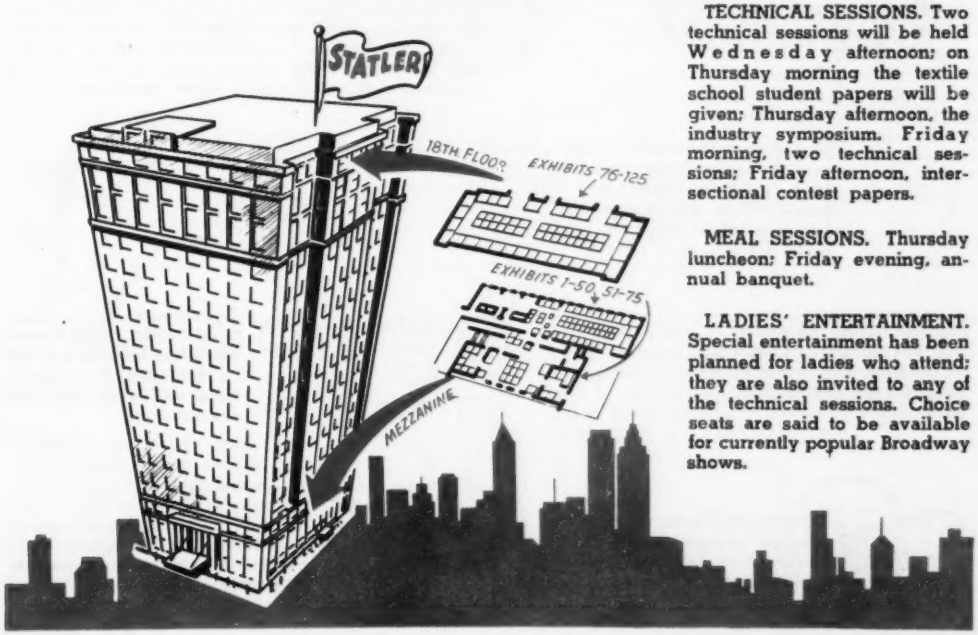
This convention is under the auspices of the New York Section; the exposition is under professional management.

THE PLACE. Hotel Statler, New York City.

THE TIME. October 17, 18, 19, 1951 (Wednesday, Thursday, and Friday).

HOTEL RESERVATIONS. All reservations should be made through the Registration Committee; a card for this purpose will be sent to members. Hotels alloting rooms for the convention are the Statler, New Yorker, Governor Clinton, McAlpin, and Martinique.

EXHIBITS. Over a hundred manufacturers of chemicals, plant and laboratory equipment, and fibers and fabrics will maintain booths to display their wares or have representatives present to greet members. (For List of Exhibitors, see page following this special two-color section.) The exhibits will be located on the mezzanine and 18th floors of the Statler. No admission charge to exhibits. Hours: 10:00 A.M. to 10:00 P.M. Wednesday and Thursday; 10:00 A.M. to 5:00 P.M. Friday.



TECHNICAL SESSIONS. Two technical sessions will be held Wednesday afternoon; on Thursday morning the textile school student papers will be given; Thursday afternoon, the industry symposium. Friday morning, two technical sessions; Friday afternoon, intersectional contest papers.

MEAL SESSIONS. Thursday luncheon; Friday evening, annual banquet.

LADIES' ENTERTAINMENT. Special entertainment has been planned for ladies who attend; they are also invited to any of the technical sessions. Choice seats are said to be available for currently popular Broadway shows.

Congratulations to AATCC on its 30th Anniversary

In Wet Processing - - -

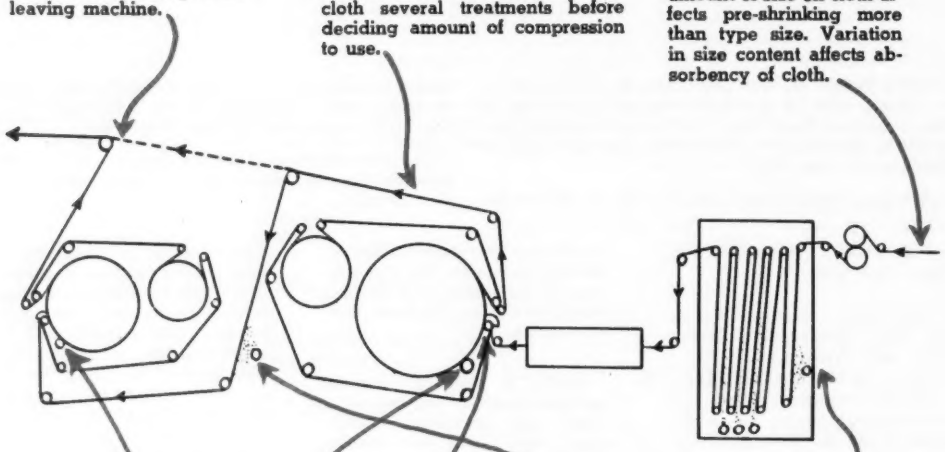
Watch These Points

Compressive Shrinking

Fabric MUST be dry when leaving machine.

Fabrics shrink differently. Give cloth several treatments before deciding amount of compression to use.

If cloth is not desized, the amount of size on cloth affects pre-shrinking more than type size. Variation in size content affects absorbency of cloth.



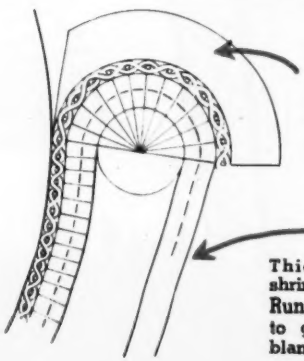
When stopping machine for lengthy period, release pressure on roll.

Water Spray: Source must be clean; pressure must be constant; keep holes clean to get even spray; shrinkage and hand are affected by amount of water; too much water causes starch or dextrine in goods to soften and stick to shoes and blanket.

Wavy warp yarns may be caused by feed roll being too small. Too much pressure can cause wavy fabric.

True evaluation of rewetting agents comes when tested under operating conditions and with formulas to be used.

Present ranges of rewetting agents permit choice to produce hand desired (stiff, boardy, soft, smooth, etc.).



If machine is stopped, raise heated shoes immediately so blanket will not be damaged. Keep shoes clean and lubricated with suitable wax.

Storing Blankets: Wrap in heavy paper; use moth preventive; keep in room which is clean, light, cool, and dry.

Thick blankets give more shrinkage, but rougher finish. Run blankets as dry as possible to give longer life. Age of blanket also affects finish.

In Wet Processing - - -

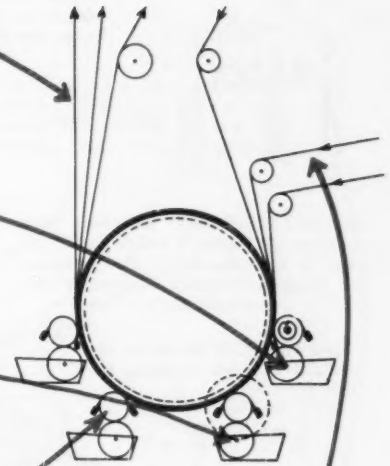
Watch These Points

Printing

The use of about 3 oz of a fiber protecting agent to a gallon of color will keep Aniline Black from "greening" and tendering the cloth.

Aniline Black and naphthol colors must be kept cool to keep them from pitting doctor blades and to keep them from deteriorating. Most plants have adopted precooling of these colors, and some plants have refrigerated the color boxes to keep the colors cool right up to time of use.

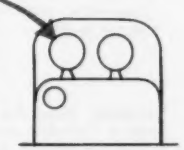
Foaming can now be avoided by several methods. Some plants use pine oil, others use commercial defoaming agents, and some have had success with spraying octyl alcohol on the color in the color boxes.

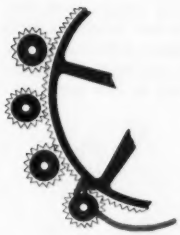


Color tubs should be kept away from the printer's bench when doctor blades are being filed. Metal filings in the color can cause poor printing.

The use of backgrey can be avoided on certain patterns, particularly patterns of the open type, if an efficient, continuous blanket washing system is used.

Continuous flow methods of cooking and cooling print pastes have been found advantageous in preparing many types of thickeners. Votators are easily adapted to cooling pastes to 50F or below, and this is particularly good when mixing naphthol or similar colors which require low temperatures to remain stable.

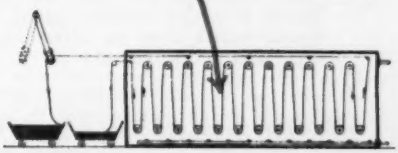




Fiber fitting gears reduce noise in the printing room.

Accurate control of temperature and moisture within the ager is necessary to achieving uniform shades and maxium color value. One supplier is now experimenting with several methods to keep cloth temperature at about 217°F by spraying or cooling with steam.

Mechanical mixers save time and insure better results than hand mixing. Pigment colors are best handled with shearing mixers of the Epenbach type or by colloid mills. Any oil and water mixture is best handled with a mechanical mixer.



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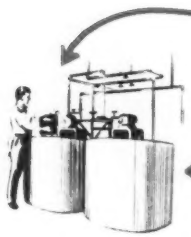
In Wet Processing - - -

Watch These Points

Warp Sizing



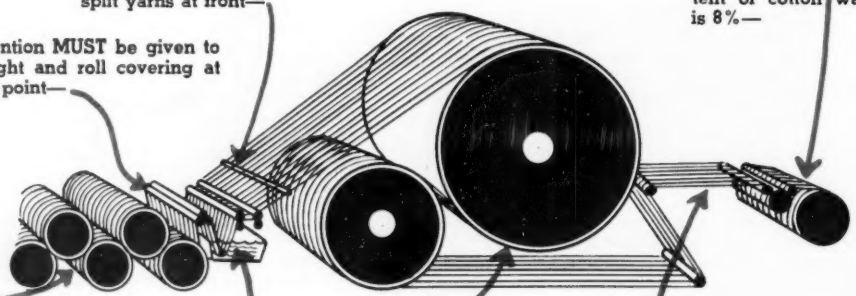
Do not overload cooking kettle. When cold water is added to hot mix, small lumps are formed—

Once size has congealed and is reheated, it contains small lumps which do not have good colloidal properties—

A split rod here will give a better "bust" at the front; also reduces tension necessary to split yarns at front—

Ideal moisture content of cotton warp is 8%—

Attention **MUST** be given to weight and roll covering at this point—



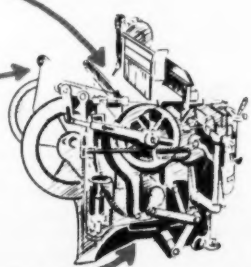
Variation in tension on section beams causes uneven runout and more waste—

To prevent yarn sticking: Reduce temperature of cylinder which yarn first contacts—

If streaks and spots of size appear on warp sheet, look for: new blanket on finishing roll; dent in copper roll; lumps of size due to insufficient agitation; fly or lint in size box—

Foaming may be caused by water coming from a variable source, too much softener, or excess penetrant. Remedies: Check size mix ingredients; add small amounts of vinegar; sometimes kerosene (for light mixes); call specialist—

A warp that is too damp will chafe or ball up. A fast weaving warp needs more humidity.



Warp stop tests give more accurate comparative figures in testing slashing results than production figures (which often are misleading because of inaccuracies in calculating)—

If shedding of starch and fiber is heavy at loom, check size mix, size box temperature, and cooking procedures—

In Wet Processing - - -

Watch These Points

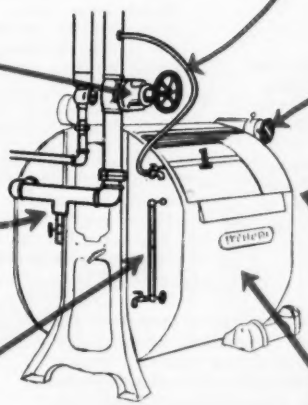
Hosiery Dyeing

A light overhead and slightly to one side helps operator to see when liquor covers axle of dye machine.

Tap cold water line and provide a flexible hose with push-button type nozzle for use in chilling bath when sampling.

Plan cold and hot water and steam connections so that control valves will be near the front of the machine, easily accessible to the operator.

Paint white stripe on flywheel to indicate to operator if machine stops while the lid is down.



When closing door, be sure that it is properly latched.

Install trap and drip valve in water inlet line to show when valve is not properly closed or is leaking.

Tilt front of machine so that overflow goes out the back.

Paint gauge glass to show liquor level at start and finish of run. Assures uniform liquid volume.

Insist that pockets 1, 2, 3, and 4 be loaded in consecutive order and unloaded in the same manner.

Balance load by dividing goods equally to number of pockets.

Time and temperature controls are a MUST.

Solution feed line should run across bottom of dyeing machine, arranged for pouring from one side only.

Pour all solutions into machine with cylinder moving downward: this assures immediate mixing of solution with liquor. If cylinder is moving upward, concentrated solution goes onto goods first.

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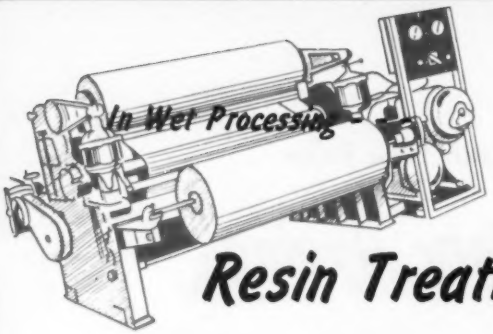


Watch These Points

Resin Treating Rayon Fabrics

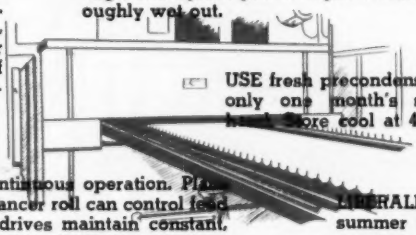
THOROUGHLY boil-off, bleach or dye, and wash prior to resin treatment so resulting fabric is clean, absorbent, neutral. Alkalies or salts retard resin curing.

MAKE allowances in dyeing for shade change induced by resin.

AVOID excessive tensions in dye house. Continuous open-width boil-off is preferred. Watch tension especially in pad-steam and Williams' units. Warp and filling yarns close up, inhibit wetting out. The lower residual shrinkage is at time of padding, the easier it is for resin to set fabric.

PROTECT rubber rolls of padder. Air cylinder pressure system provides gentle action, even loading of rolls across width, accurate settings. Rolls yield for seams and bunches, prevent damage to rolls and fabric.

DRIVE solution into interior of fabric with tighter squeeze, higher liquor ratio. Adjust pressure to give 75 to 80% expression. Don't go above 4 to 6 tons. Higher may crush fabric. Two roll padder is adequate. Complete, uniform impregnation assured by two or more dips. For one dip pad, multiple dip presaturator is recommended. Three bowl pad laced to give second immersion between 1st and 2nd nips is good practice. High twist, plied yarns, tropical worsted styles should be thoroughly wet out.



USE fresh precondensate. Keep only one month's supply at hand. Store cool at 40-50°F.

ARRANGE padder and tenter for continuous operation. Place J-box between to minimize tension. Dancer roll can control feed speed. Variable speed transmission drives maintain constant, uniform tension. For under 2% relaxation shrinkage, overfeed devices are a must. These can be adjusted from −5% to +35%, and will maintain pinning of selvage on chain to within 1/16" tolerance. Overfeed permits complete shrinkage warpwise, simultaneously controlling width. Pin tenter ideally adapted to overfeed, eliminates slip, presses cloth on pins without skipping clips.

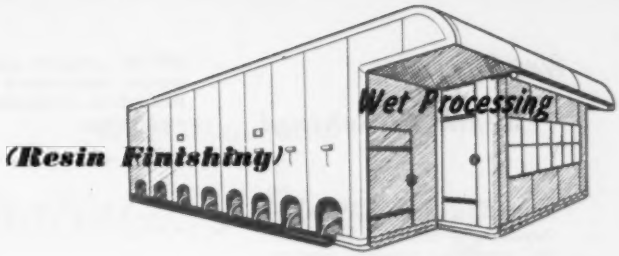
LIBERALLY add cracked ice in summer months to drop temperature sharply from 175°F to 70°F in the manufacture of urea or melamine formaldehyde precondensate. Keep solution cool. Use ice packing around mixing tank, cooling coils in mixing tank and pad box.

ADD catalyst when precondensate is ready for immediate use. Solution should show pH 7. Test softeners before adding for effect on stability or curing. Best to add softeners or finishing agents after goods are cured and washed. Neutral non-ammonium catalysts have greater bath stability — less danger of fish odor developing. Hexamine develops odors under acid conditions. Good proportion is 1 to 3% catalyst on weight of 50% active resin paste.

FEED cloth into padder with expander bars or revolving scrimp rolls. Creases at padder squeeze are often incorrigible. Expander after nip is advisable.

OBSERVE degree of skew on frame by means of stroboscope; eye can be relied upon for speeds not in excess of 50 yards per minute.

GUIDE cloth into tenter or overfeed with guider. If cloth is not stiff enough for mechanical feelers, an electronic type guider will do the job. Electronic type will not foul in presence of resins. Tenter guider opens out creases; centers cloth on frame. Continuous guiding of clip rails assures even tentering, permits high speed production, less operator attention. Modern dyehouse equipment allows accurate selvage in wind-up, at times eliminating need for overfeed.



MONITOR cloth into frame with weft straightener, which will correct bias while cloth is wet and workable. For proper setting, cloth must be square. Photoelectric type is reliable. Bowed weft straightener can be used alone or in conjunction with skewed weft straightener.

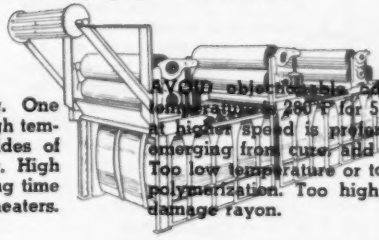
ADJUST speed to barely dry fabric (5 to 10% moisture content). Don't overdry to point of preliminary curing. Electronic moisture indicator will permit positive control, standardize finish, cut steam or gas consumption. Dry at 180 to 200°F. If fabric dries too quickly, soluble resin will follow moisture—migrating to surface.

DRY and polymerize in one operation with infra-red equipment. Latest devices reduce chance of spotting or marking fabric and won't scorch. Added attraction: dry box warm-up period is eliminated or reduced.

PREVENT fish odor by drying with good air exhaustion. Prevent excessive humidity from building up in dryer.

DECIDE on drying equipment best suited to your plant and quality of goods normally handled. Infra-red burners are good pre-dryers and will eliminate any lint problem. Tenter, loop, and airlay dryers keep warp at minimum tension. Slack dryers are also used. Another combination is stack of cans, or a roller dryer in tandem with tenter or slack dryer. Pre-dryer removes about 50% moisture, and final dryer will remove remainder under relaxed conditions. This arrangement might save floorspace. A short steam tenter can rip goods before being pulled to width. Insulate housings adequately to insure against radiation losses. Housed tenter assures drying speed without fabric distortion.

CONSIDER all factors which cause variations in time and temperature relations: weight and construction of cloth, initial moisture content of fabric, heat conductivity of fiber and fabric. Generally, these relations attain: 300°F—3 to 4 minutes; 340°F—1½ to 2 minutes; 360°F—1 minute.



BALANCE cloth drying. One method is to impinge high temperature air on both sides of fabric simultaneously. High speed fans shorten drying time as do extended surface heaters.

AVOID objectionable odors by full cure. Minimum curing temperature is 280°F for 5 to 7 minutes. Shorter lengths of time at higher speed is preferable. If cloth pH is 3.5 to 4.5 upon emerging from cure, add more catalyst to accelerate reaction. Too low temperature or too short time will not allow complete polymerization. Too high temperature or too long time will damage rayon.

WEIGH inherent characteristics of all curers available before deciding upon which one will fit your operations best. Loop type has high output, large holding capacity, long curing time, low curing temperature. Air looping prevents swirling, creasing which would leave permanent marks. Roller type is adapted to high temperatures, flash cures, tensionless but moderate output. Its method of conveying makes it suitable for lightweight material. Straight away tenter has relaxed feed, balanced drying, but must be operated at low speed.

OIL clip links, at least once weekly. High temperatures and speeds compel good lubrication on tenter. Front and top cover plates on tenter will prevent cloth from fouling up drive shafts, heads, and keep cloth clean.

PREDICT what dimensional changes will be allowed in processes after curing by means of AATCC rayon wash test.

TRY zone control of temperature for lowering operating cost. Plant experience proves steam supply is not constant even when controlled at boiler. Changes in ambient temperature around dryer prevent constant temperature within. On cold mornings high steam usage at plant start-up causes pressure drop. Calculated steam pressure is less than anticipated on hot days. A recorder is good practice.

Wet Processing

(Resin Finishing)

INSURE complete polymerization and prevent fiber damage by precise temperature control. Temperature should be uniform throughout. Alternative: determine curing time empirically for each set-up.

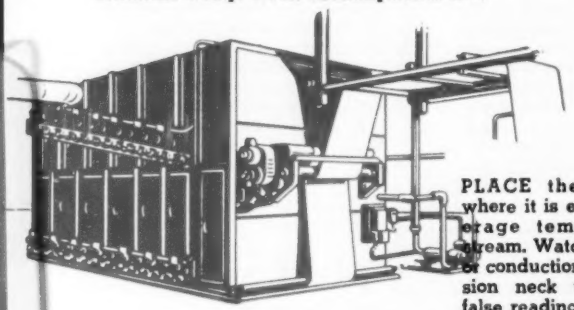
AVOID tension and rough handling at take-off. Use plaiter or constant tension electric batcher. Expanders at key points will help.

COOL goods after curing by means of a water spray or cooling drums. Water temperature of 65°F will suffice.

ELIMINATE static in batching with a neutralizer. Obtain firmer wind-up. Tension controlled batching gives wrinkle-free rolls, least extensibility to fabric.

PRACTICE safety. Use mechanical means to handle resin impregnated fabrics, wet and not cured. Take daily bath after work. Avoid rings, wristwatches. Wear rubber or washable leather gloves. Hood drying and curing units to carry away dermatitic causing vapors.

DON'T rope wash fabrics having tendency to crease: sheen gabardine, velveteen, etc. Rope washers have high efficiency and speed. Goods are handled gently. Bruise marks are avoided. Relaxed condition of material in rope washer releases chemicals easily. Water consumption is low.



PLACE thermometer bulb where it is exposed to true average temperature of air stream. Watch out for radiation or conduction heat along extension neck which will cause false reading.

WASH and dry with full control of pH of solution to insure neutralization of fabric. Obtain full relaxation, opened web, smooth surface with open-width washer. Fabric is free to shrink or stretch any amount at any point.

WATCH pH in order to prevent odors: Alkali and detergent feeding should be maintained at pH 9 to 10 in the first compartment. The pH decreases rapidly in first box. Second batch should be pH 8. Wet cloth after rinsing should be neutral or weakly alkaline. Use 0.1 to 0.2% soda ash, 0.1 to 0.5 synthetic detergent, 120 to 170°F in washing. More washing than necessary may weaken hand.

DRY finish, calender, decatize, or all three. If fabric is too stiff, excess calendering will break hand. Half decatizing is preferred.

FINAL dry just sufficiently to dry cloth. Odors might develop at this point. Here again, moisture indicators safeguard the process.

KEEP fabric relaxed. Mechanical opening and suction slot extraction may be used. Dry relaxed in loop, roller airlay, or tenter. Goods will require steam framing after dry box. Steam frame to width indicated by wash test of cured fabric. Framing can stretch warp, reduce degree of crease resistance and shrink control.

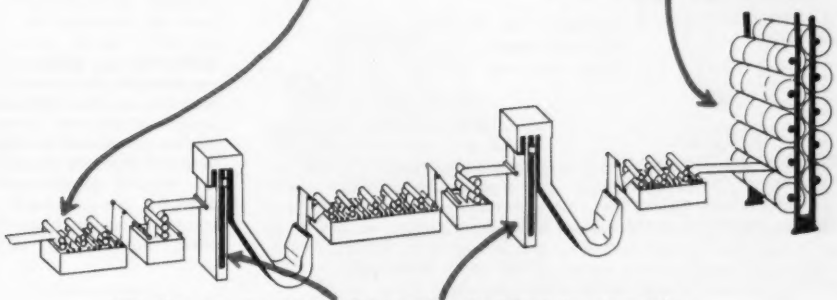
In Wet Processing - - -

Watch These Points

Continuous Bleaching

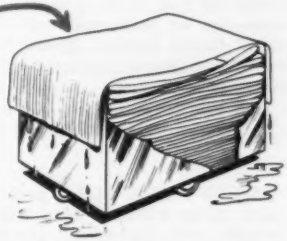
Keep metal objects out of Williams unit: they will tear cloth. Also, keep units free from lint: it will wrinkle cloth.

Keep lint off chains or gears on dry cans: it may transfer to cans and cause oily spots on cloth with every turn of can.



Check to see that idler roll is turning (in J-Box) (or steamer): cloth or tape on idler roll journal provides visual indicator. When roll fails to turn, a jam or breakout is indicated.

Keep cloth damp following the desize. Boxes should be lined with cloth and kept damp; a damp cloth cover also helps. Selvages and folds may dry—then starch may not convert or wash out. Result: streaky or spotty dyeing.



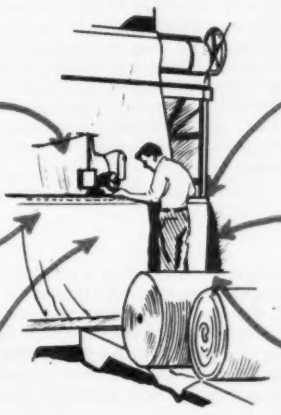
Sewing

Sewing of ends at start of process is important.

Seam must be straight.

Crooked seam will cause skewed filling, perhaps for full cut of cloth.

Laps in seam will cause wrinkled cloth — show up as faulty dyeing.



A selvage turned under and then sewed will cause a "double selvage."

Cloth torn along the filling before seaming will permit a straight seam — but will make more waste.

Extra thread sewn into selvages adds strength and prevents breaking.

Congratulations to AATCC on its 30th Anniversary

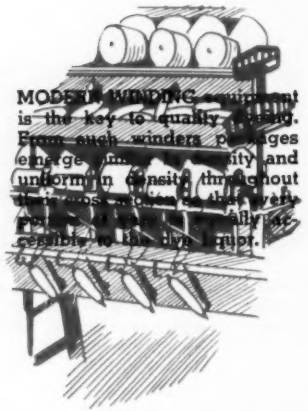
In Wet Processing - - -

Watch These Points

Package Yarn Dyeing

USE BLOCK-OFF TUBE when dyeing less than full loads. Remove excess spindles, plug hole. A new type block-off has a calibrated hole which permits identical pressure and flow conditions as for capacity loaded yarn carrier.

BALL BEARING spring holders for 1⅝" dia. tubes allow holders to revolve freely. Doffing is easier, thereby preventing distortion of the package incurred in yanking. A softer package can be wound.



MODERN WINDING equipment is the key to equally dyeing. From such winders packages emerge firm, of density and uniform in density throughout their cross-sections so that they will be equally penetrable to the dye liquor.

SPRINGS are difficult to wind or rewind. Fine count yarns sink into crevices. Knitted socks are required and these socks shrink. However, springs offer less resistance to dye flow than do small diameter tubes. Springs can increase spindle capacity as much as 33% by their compressibility feature.

PROVISIONS for screens at pump openings? Protect pumps from objects which might fall into dye or expansion tanks.

LARGE EXPANSION TANKS will take care of variations in amount of poundage dyed, when it becomes necessary to increase the bath factor to compensate for an additional volume of liquor needed. These are particularly useful for naphthols.

SMALL TUBES have limitations in vat, naphthol, and mercerized yarn dyeing. Yarns shrink, cause cross-overs, and dye heavier on outside of package.

CHEESE DYEING of B-C package saves winding onto ball warps and beaming. Don't wind cheeses too hard. Standard pressure-lever spring is sufficient. Wind at 1200 yards per minute. Allow additional openings in core for better circulation. Reduce cheese size to 24 oz for black, vats, and similar colors. Exhaust dye as slowly as possible.

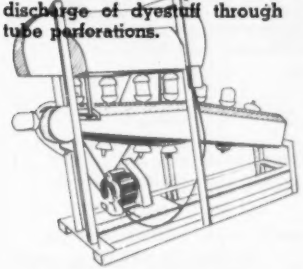
BETTER DYEING and backwinding are obtained from firm packages. Soft packages bulge during dyeing. Outer layers, being under greater tension, cause slack yarn to sew over ends of tube when package is swollen in the dye bath. Mercerized and spun rayon require a soft wind. These yarns shrink drastically and tend to form cross-overs.

CENTER MANIFOLDS act to distribute dyestuff efficiently through ⅝" tubes. By using this device, two tubes may be loaded on each spindle without affecting dye flow. It provides low liquor ratio and more flow per package.

FOR OPTIMUM dye penetration, wind tubes with filter paper. Filters not only afford protection against objectionable matter, but also act as a cushion to reduce velocity and distribute flow of the dye liquor. Dye spreads out over the absorbent paper and penetrates yarn next to tube. Filters reduce slippage at start of wind—a cause of "rosettes." Some dyers prefer the parchment type over knitted sleeves. The latter shrink in length, acquire density, and allow dye liquor to by-pass center of the package, thereby dyeing ends a deeper shade.

ADVANTAGES in using the 1⅝" dia. tube are many. These larger cored tubes rewind better, offer greater area for flow to disperse, and permit liquor to circulate faster. Their first cost is higher than for ⅝" dia. tube, yet they are more economical in the long run. Dye machine spindles can hold up to 9 large diameter tubes; much more than is possible with small tubes. A larger, 2 lb package can be formed on the 1⅝" tube.

PACKAGE SHAPING can correct some winding faults. It is virtually indispensible for old model winders or inexperienced winder operators. Shaping tends to yield uniform package density, resulting in even penetration of dyestuff. Though not required for wool or worsted yarns, crimping eliminates hard straight shoulders of the cotton package. This prevents cross-overs and light spots around the shoulders—the farthest point from discharge of dyestuff through tube perforations.



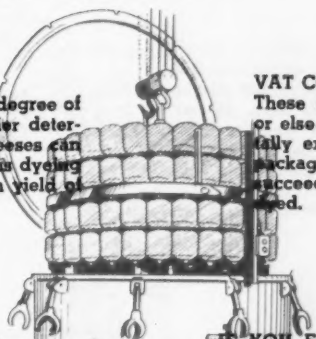
ELIMINATE touching yarn by using a reliable materials handling system. Transport carriers by overhead rails, or carrier truck and hoist. Some systems permit dyeing, extracting, and drying on the same carrier. Easily soilable pastel shades derive the most benefit.

FIXED TENSION air wrenches for putting on or removing nuts from spindles prevent overtightening.

INSTRUMENTATION simplifies dyeing; makes it easier for experienced operators to follow instructions and control dyeing properly. Here are the items to look for on a control panel: recording thermometer (serves as history for each lot), automatic flow reversing valve and timer, automatic dye bath temperature control, pressure gauge, hand operated reversing valve, time clock with alarm (alerts operator at critical periods), and indicating lights to show direction of flow. Instrumentation can save dyestuffs and chemicals and assure color uniformity.

SELECT COLORS with same exhaustion rate to make up shades. Use a leveling agent but don't be surprised if extra dye is required to get desired shade.

MINIMIZE UNLEVELNESS with high flow rates. A high rate permits dyeing larger or non-uniform density packages. Three gallons per minute for a 20-oz package is satisfactory. More is desirable. Ten pounds difference between pressure and back pressure is adequate. A cycle of three minutes outside-in, two minutes inside-out works well.



ALL-PURPOSE combination package dyers add high degree of flexibility to mill operations. The nature of the carrier determines whether raw stock, cones, beams, tubes, or cheeses can be dyed. Multiple connecting kiers allow simultaneous dyeing of several carriers under identical conditions. A high yield of uniformly dyed packages is result.

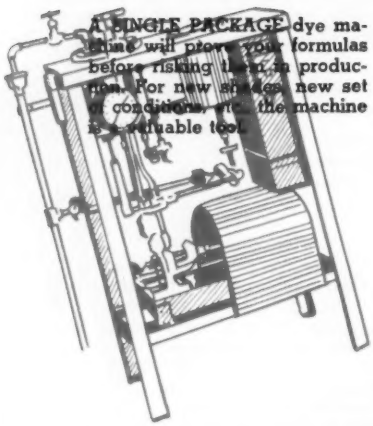
VAT COLORS exhaust rapidly. These require high flow rates or else dye will partially or totally exhaust upon portions of package first contacted, leaving succeeding portions light or unevened.

WET YARN from outside-in for 20 minutes before reversing flow. Liquor forcing its way through a dry package from inside-out can bulge yarn over ends of tube. The outside-in flow forms channels, shrinks and wets out yarn. This keeps soft-wound packages in good shape.

IF YOU ENTER yarn without previously boiling-out, a non-foaming wetting agent is essential. The agent eliminates air from package, guarantees total dyeing.

(Yarn Dyeing)

IF MACHINE has elbows and angles where water pockets can form, rinse after discharge of dyebath. A final rinse during the cool-off is sufficient to clear other kiers. Flush again when going from a dark shade to pastel.



A SINGLE PACKAGE dye machine will prove your formulas before risking them in production. For new shades, new set of conditions, etc., the machine is a valuable tool.

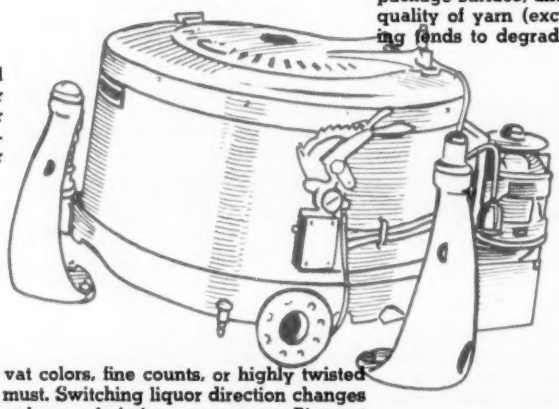
BLAST GATES of blower should be set for motor rating. Check amperage periodically. Don't reset the gates once the manufacturer determines correct position. Chances are the gate was set for peak motor efficiency and you might ruin a motor by making a change.

ABOVE 125,000 pounds weekly there is economy in centrifugal extraction and tray dryers equipped with reversing air circulation, temperature, and humidity controls.

FILTER MAKE-UP and recirculated air electrostatically or mechanically. Keep the felt element of a mechanical filter clean. A dirty filter lowers drying capacity as much as 50%. Electrostatically cleaned air is 99% dust free. Remember that a package acts as a filter and as much as 5% yarn can be discolored or spoiled by contaminants.

YARNS CONTAIN as much as 150% moisture upon leaving dyebath. Thorough extraction pays off. It reduces long, costly drying cycle. It minimizes danger of color migration, prevents occurrence of salt deposits on package surface, and preserves quality of yarn (excessive drying tends to degrade).

AIR PRESSURE extraction will not distort package but power requirements are high. Blower method assures good extraction, although its horsepower consumption is also great.



REVERSE FLOWS on vat colors, fine counts, or highly twisted and plied yarns are a must. Switching liquor direction changes position of yarn on package, obviating cross-overs. Pigment and direct colors are not so sensitive, can be pumped in single direction.

In Wet Processing - - -

Watch These Points

Instruments

Maintenance

Make one individual responsible for all instrument inspection and maintenance, even though several are in the maintenance crew. Forbid other mill personnel to tamper with calibration or control settings.

Give instrument maintenance man opportunity to learn operating principles and mechanical design. Sources of information: installation and instruction booklets; training courses offered by manufacturers.

Care

Don't place thermometer near moving parts; it may be damaged.

Protect capillary tubes. They can be injured.

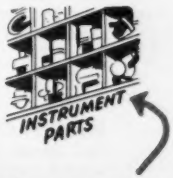
Locate instrument properly; a correct location can be found.

Use proper tools for repairing; they are available.

By scheduling regular inspections.

Get Better Service

By using service of suppliers' trained engineers.



By lubricating systematically.

By carrying an inventory of spare parts.

Congratulations to AATCC on its 30th Anniversary

In Wet Processing - - -

Watch These Points

Grey Mill Defects

THREAD OUT defects are the result of missing warp threads caused by misdraw or failure of a stop motion to function. Finishers find this to be a common defect which throws many dyed goods into lower quality grades. Reed streaks come in this same category, causing light and dark lines in dyed goods.

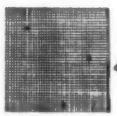
BRUISED CLOTH is the result of bad temple or sand roll adjustments. This type of injury is particularly prevalent in tightly woven, fairly heavy fabrics. It shows very little in the grey but comes out clearly in dyed goods.

KINKY AND JERKED-IN filling cause trouble in both dyeing and printing. Remember, these defects show up only slightly in grey goods, but they become obvious faults when color is added to the cloth.

HANGING THREADS cause much more trouble in printing than in dyeing. Printing over these threads leaves a white streak where the thread was printed and the cloth missed.

FAULTY PICKS in the form of broken picks, double picks, or picks-out are troublesome to dyers. Printing, particularly in small patterns, will cover a multitude of sins, but plain dyeing emphasizes every small mill defect.

OILY GOODS are hard to handle and cause considerable time to be spent in special handling. Black oil is the hardest to remove, but yellow oil and rusty oil require special attention.



TAR FROM BALE TIES was common on cotton goods made from the 1948 crop. This trouble has not been experienced to any extent on later crops but is getting to be a problem again.

THICK AND THIN places caused by bad filling changes or by incorrect let-off or let-back: This type of defect is very noticeable in plain dyed goods.

POOR PACKAGING can damage cloth which leaves the mill as top quality material. Some filament rayon weavers are reusing their yarn cartons to ship rolls of woven cloth to the finisher. These cartons are not designed for this service, and they break at the edges and corners, exposing the cloth to dirt, bruises, and tears.

New Process for Dyeing Glass Fibers

Coordination by the research staffs of three companies has resulted in the development of a process for the dyeing of fibrous glass without reducing flame resistance and at the same time increasing the wash-fastness, abrasion resistance, and drapery qualities of the material, according to J. Robert Bonnar, technical director of General Dyestuff Corporation. It resulted from many months of intensive research effort by the General Dyestuff staff working in cooperation with General Aniline & Film Corporation and the Owens-Corning Fiberglas Corporation, Mr. Bonnar said.

Affinity of glass piece goods for vat pigments was developed through the cross-linking of methy vinyl ether maleic anhydride copolymer, a General Aniline discovery, with polyvinyl alcohol. This process is known as Appretan PF.

Modifications of this procedure have not only made possible the production of a line of colors incorporating the good fastness to washing and to light of vat dyestuffs with their brilliance of shade, but Appretan PF was found to act as a binder for other film forming materials such as Teflon, which has been found to increase abrasion resistance without impairing draping.

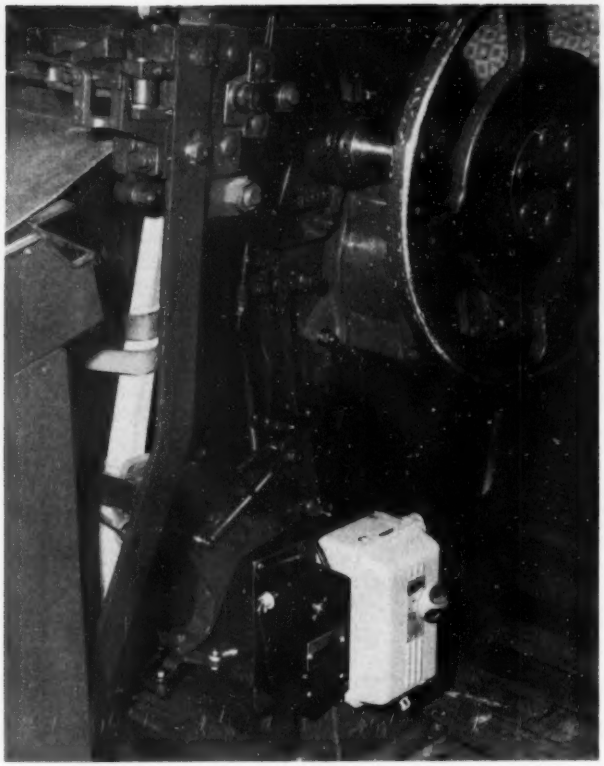
"We can now foresee the future availability of many fast to light and washing shades which combine beauty with good serviceability," Mr. Bonnar added. The Owens-Corning Fiberglas Corporation is now producing the material for consumer evaluation by the trade.

List of Exhibitors at AATCC Convention

For details, see the third page of the preceding special two-color section, presenting "Tips on Wet Processing."

Name	Space
Alco Oil & Chemical Corp.	29-30
Amalgamated Chemical Corp.	14-15
American Aniline Products, Inc.	108-109
American Bemberg Corp.	75-76
American Dyestuff Reporter	50
American Optical Co.	49
American Polymer Corp.	87
Anderson Machine Shop Inc.	94
Arnold, Hoffman & Co., Inc.	16-18
Atlantic Chemical Co., Inc.	27-28
Atlas Electric Devices Co.	22-23
Joseph Bancroft & Sons Co.	60
Barco Manufacturing Co.	24
Bersworth Chemical Co.	85
Borne Scrymser Co.	33
The Brush Development Co.	48
Burlington Engineering Co.	9-10
Calco Chemical Div., American Cyanamid Co.	6-8
Carbic Color & Chemical Co., Inc.	25
Celanese Corp. of America	63-64, 67, 68
Ciba Co., Inc.	34-35
Commonwealth Color & Chemical Co.	89
Cravenette Co. of U. S. A.	103
Dexter Chemical Corp.	79B
Dow Corning Corp.	83-84
E. F. Drew & Co., Inc.	86
E. I. du Pont de Nemours & Co., Inc., Dyestuffs & Fine Chemicals Div.	11-12
E. I. du Pont de Nemours & Co., Inc., Multiple Fibers Div.	57-59
Emery Industries, Inc.	93
Fairchild Publications	54, 79A
Fisher Scientific Co.	31
Gaston County Dyeing Machine Co.	116
Geigy Co., Inc.	81
General Dyestuff Corp.	40-42
David Gessner Co.	80
Glasco Equipment Corp.	77
John K. Hewson Co.	104
The Hilton-Davis Chemical Co.	50 B and C
E. F. Houghton & Co.	43-45
Instrument Development Labs	3
Interchemical Corp.	47
Italviscosa—Snia Viscosa (N. Y. Rep.)	69
Kelco Co.	32
Macbeth Corp.	100
Monsanto Chemical Co.	110-111
Morrison Machine Co.	50 D and E
National Aniline Div., Allied Chemical & Dye Corp.	98-99
National Milling & Chemical Co.	107
National Starch Products, Inc.	82
Nopco Chemical Co.	4-5
Nuodex Products Inc.	13
Onyx Oil & Chemical Co.	95
Owens Corning Fiberglas Corp.	61-62
Pharma Chemical Corp.	26
Rayon and Synthetic Textiles	53
Richmond Oil, Soap, and Chemical Co., Inc.	101
Rohm & Haas Co.	114-15
Royce Chemical Co.	79
Sandoz Chemical Works, Inc.	20-21
Sarco Co., Inc.	50A
Scholler Bros., Inc.	1-2
Seydel-Woolley & Co.	105
Alexander Smith Products	78
Smith, Drum & Co.	112-113
Socony-Vacuum Oil Co., Inc.	120-121
South Florida Test Service	102
Standard Fabricators, Inc.	92
Tenco Machine Co.	88
Tennessee Eastman Corp.	96-97
Textile Age, Inc.	19
Textile Bulletin	52
Textile Industries	38-39
Textile World	106 and 119
Union Carbide & Carbon Corp.	70
U. S. Testing Co.	46
Venango Engineering Co., Inc.	125
Virginia-Carolina Chemical Corp.	66
Virginia Smelting Co.	117-118
Wallerstein Co., Inc.	36-37
Warwick Chemical Co. Div., Sun Chemical Corp.	124
Westinghouse Electric Corp.	122-123
Jacques Wolf & Co.	76
Michigan Alkali Div., Wyandotte Chemicals Corp.	90-91

Loom



MODERN LOOM MOTOR STARTER mounted on a pedestal-type casting set on the floor directly beneath the loom motor. This location is convenient; however lint, dirt, oil drip, and physical abuse present a problem, and a semi-dust-tight enclosure is required.

MODERN power supply layouts emphasize several features, formerly neglected, when individual motor-driven looms are employed. Among the neglected features are the following:

(1) Safety, both for loom operators and electricians servicing the equipment.

(2) Reduction of fire hazards to a minimum.

(3) Ease of servicing.

(4) Adequacy of the equipment to perform the required functions. This includes current carrying capacity, overload and short circuit interrupting capacity, provision for group starting, and proper enclosures for protection from lint as well as preventing fires.

In the modern weave room, individual motor drives may vary from ½ hp on some of the older looms to 1½ or 2 hp on the newer, larger, and high-speed looms. Approximately 80 per cent of the total motor installations employ motors which develop 1 hp at 1750 rpm. The standard power supply in the majority of textile mills is 3 phase, 60 cycles, 550 volts, although there are some installations at 220 and 440 volts. The number of looms in operation may range from 100 in a small mill to more than 1000 in some of the large mills.

Usually power is supplied to the weave room by one or more main circuits, depending upon the size of the weave room. The circuits are split into branch circuits running to groups of looms, and finally to the individual motors themselves. The function of the distribution system is to provide adequate power supply without excessive voltage drop at the motors. Every distribution system should provide proper protection to prevent damage to the circuit should an overload occur. Also, provisions should be made to reduce fire hazards to the motors and branch circuits as well as the main feeders.

Many old installations, still in service, employ oil-filled main feeder breakers, open type wiring, and fuses and knife switches in branch circuits. Individual motor starters of all types were used, including small manual drum switches, both air-break and oil-filled. In some instances fuses were used with the switches to provide motor overload protection.

New equipment and modern practices have made possible much safer and better protected installations for weave rooms. One trend has been to eliminate oil-filled equipment and the potential fire hazard accompanying such installations. Air circuit breakers are now used wherever possible for all feeders to provide close overload protection by means of thermal trips, and short circuit protection with instantaneous trips. Modern circuits are conduit-enclosed, and equipment enclosures are designed to prevent entrance of lint. Overload protection is provided by thermal elements or equivalent, which match very closely the heating characteristics of the motors and conductors.

Follow Code. It is important in making new installations to follow closely the recommendations listed in the National Electrical Code. Following the rules assures the safest possible installation and satisfies the fire underwriters insurance requirements. A booklet titled

Motor Power Supplies

A treatise on weave room power distribution systems and electrical equipment installations.

EXCLUSIVE

By S. A. BOBE
Westinghouse Electric Corp.

"Recommended Good Practice for Selecting and Installing Electrical Equipment in Textile Mills," has been issued by the Factory Insurance Association. The booklet contains much helpful information for anyone making textile mill applications.

Main Feeder. The requirements of an adequate feeder circuit in the weave room include correct size conductor to carry the required load, with some margin for future growth. The circuit should have capacity to carry at least 25 per cent more than the total full load ratings of connected motors. The feeder should have good voltage regulation for the load carried. The voltage at loom motors should not vary more than 10 volts from no load to full load, and it is good practice to keep the voltage on the high side of the motor rating. Motors will operate satisfactorily at voltages of plus or minus 10 per cent of their rating. However, if the operating voltage is lower than rated voltage, a higher current is necessary for the motor to carry the same load. Motor heat varies as the square of the current; therefore the average motor will run much hotter and have less overload capacity when operated below rated voltage.

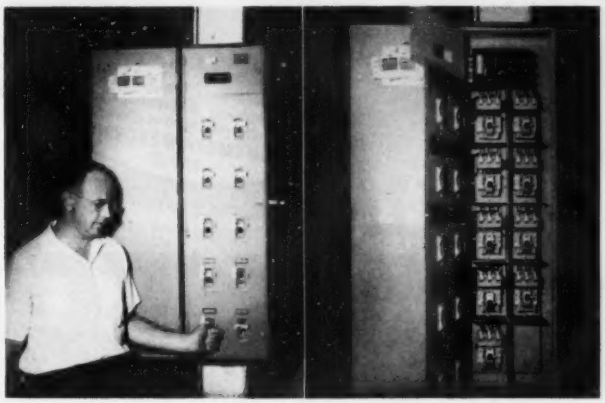
Feeder cables usually are protected from damage by enclosing them in conduit. Several new installations have been made using bus duct of lint-free construction. Installation and operating advantages are gained by using this means of secondary power distribution.

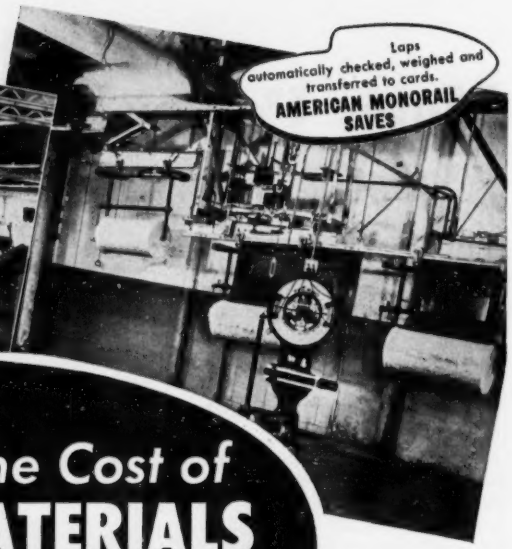
Mill main switchboards now utilize steel cubicle drawout type air circuit breakers for feeder protection. In applying a breaker, it is necessary to check available short circuit capacity to be certain that the breaker can interrupt any possible fault. At 440 or 600 volts, a 25,000-ampere interrupting capacity breaker will be adequate up to and including 750-kva transformer rating. A 50,000-ampere interrupting capacity breaker is adequate above 750 kva, up to and including 2000 kva. Overload protection is provided by an inverse time limit trip which permits short time overloads, and such protection limits the damage to a feeder in case of cable failure, equipment failure, or lightning.

Branch Circuits. Branch circuits from the main feeder supply groups of looms. A common arrangement is to run the main feeder the length of the weave room. Taps off the main feeder may be run into panel boards or controls supplying groups of looms without any protection for the taps, provided they do not exceed 25 feet in length, have a current capacity at least ⅓ that of the feeder, and terminate in a single circuit breaker or set of fuses that will limit the load on the tap to its N.E.C. rating.

Branch circuits from the group

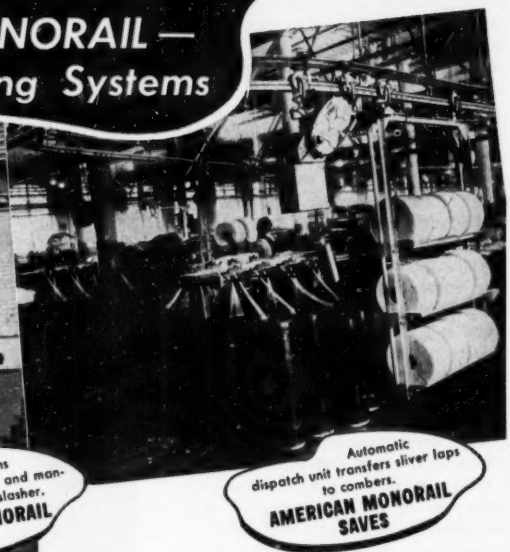
LOOM MOTOR STARTER PANEL installation at Roanoke Mills Co. No. 2, Roanoke Rapids, N. C. These photos were made during installation. Note compact appearance (right) with inner panel door open. This arrangement requires some type of disconnect at the loom motor so that the motor may be easily disconnected in case of trouble.





To Reduce the Cost of HANDLING MATERIALS in *Textile Mills*

Use AMERICAN MONORAIL — Overhead Handling Systems



THE AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE — CLEVELAND 7, OHIO

center usually are of No. 10 wire and serve six to ten loom motors. The taps to the individual loom switches from the branch circuit are also No. 10 wire and need no protection.

A single disconnect may serve a group of motors, according to the National Electric Code as covered in Section 4,343, Paragraph B. The principal requirements are as follows:

(1) Each motor must have individual running overcurrent protection.

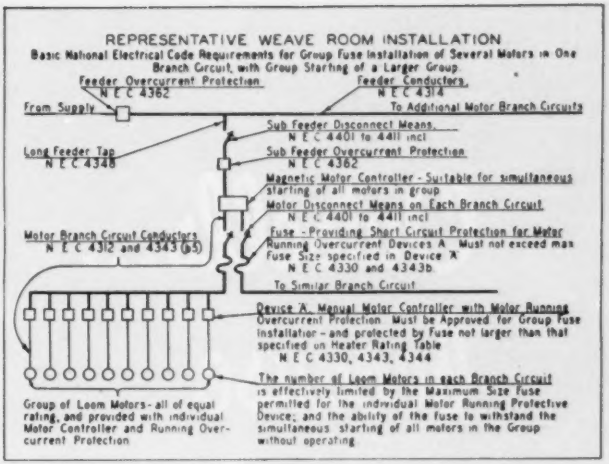
(2) The starter and its overload protection device must be approved for group installation by the Underwriters' Laboratory.

(3) Branch circuit fuses must not be larger than that permitted for the overload relay protecting the smallest motor. The approved size of fuse is given in a table cemented inside of each approved starter. This maximum is generally 30 amperes for heaters used on most 3-phase, 550-volt loom motors.

Although Item 3 in the foregoing specifications calls for the use of fuses for protection of branch circuits, air circuit breakers are commonly used. Breakers rated at 30 amperes will give the circuit both overload and short circuit protection. The breakers provide several advantages in that they may be quickly reset after a fault is cleared, and they prevent single phasing which may occur when one fuse fails. The number of motors served by one set of fuses or a breaker is limited by the ability of the circuit to withstand simultaneous starting of all motors. The average application includes about 8 motors per group. Loom motors withstand initial supply of about 6 to 7 times full load current.

Control equipment required in the weave room includes contactors to permit group starting, branch circuit overload protection, and individual motor starters with motor overload protection.

Group Starting Preferred. Group starting has become generally accepted as the preferred method of starting loom motors. Groups of 30 or more motors are connected to a single contactor to permit starting and stopping the motors simultaneously by means of a single push button. Contactors


REPRESENTATIVE WEAVE ROOM INSTALLATION
Basic National Electrical Code Requirements for Group Fuse Installation of Several Motors in One Branch Circuit, with Group Starting of a Larger Group
Feeder Overcurrent Protection N E C 4362
Feeder Conductors N E C 4314
From Supply
To Additional Motor Branch Circuits
Sub Feeder Disconnect Means N E C 4401 to 4411 incl
Long Feeder Tap N E C 4348
Sub Feeder Overcurrent Protection N E C 4362
Magnetic Motor Controller - Suitable for simultaneous starting of all motors in group
Motor Disconnect Means on Each Branch Circuit N E C 4401 to 4411 incl
Motor Branch Circuit Conductors N E C 4312 and 4343 (b)
Fuse - Providing Short Circuit Protection for Motor Running Overcurrent Devices A. Must not exceed max Fuse Size specified in Device 'A' N E C 4330 and 4343b
To Similar Branch Circuit
Device A. Manual Motor Controller with Motor Running Overcurrent Protection. Must be Approved for Group Fuse Installation - and protected by Fuse not larger than that specified on Heater Rating Table N E C 4330, 4343, 4344
The number of Loom Motors in each Branch Circuit is effectively limited by the Maximum Size Fuse permitted for the individual Motor Running Protective Device; and the ability of the Fuse to withstand the simultaneous starting of all motors in the Group without operating
Group of Loom Motors - all of equal rating, and provided with individual Motor Controller and Running Overcurrent Protection

should be applied very conservatively for this service because they must stay energized for long periods of time. The sum of the full load current ratings of the motors connected should not exceed approximately 60 per cent of the contactor ampere rating. Combination linestarters frequently are used for this service because they provide a disconnect with the contactor.

The motor group branch circuit to which the individual motors are connected must be provided with short circuit protection for the motors. The National Electric Code specifies that fuses must be used, but circuit breakers frequently are used. The fuses or breakers are mounted as panel boards on a wall or post adjacent to the looms they control in the weave room.

Modern panel boards are made semi-dust-tight to prevent entrance of lint. Each motor group consists of approximately 8 or 10 motors, and panel boards usually consist of about 5 or 6 breakers or sets of fuses which in turn are supplied from one contactor. The arrangement makes a complete group of about 50 motors controlled by one pushbutton station.

Modern Starters. Individual motor starters have undergone considerable change. Modern type starters have thermal relay overload protection. Temperature of the relay closely follows the motor heat and permits momentary overloads which the motor can withstand without overheating. Proper protection is provided for a sustained overload. Many fires have been started by large amounts of lint collecting inside the loom switch and being ignited by an arc when the switch was opened. Semi-dust-tight NEMA type I-A enclosures are now used to prevent entrance of lint into the starter.

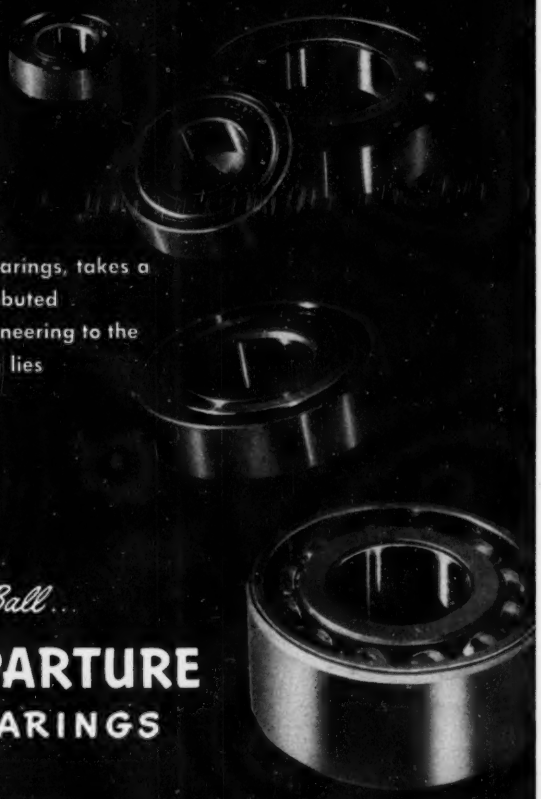
The enclosure is made lint-free by a Neoprene gasketed cover with a rotary action handle operating on a shaft in a close-fitting bearing. The handle-operating mechanism assures long mechanical life. The starter must be operated by hand and is recommended by Factory Mutual Fire Insurance Companies and the Factory Insurance Association as the approved and safest installation for individual loom switches.

Most switches have a toggle mechanism to provide quick make and break. Contacts are air break with adequate arc quenching chutes to extinguish arcs in approximately one-half cycle. Covers are arranged with mechanical interlocks so that the switch cannot be opened unless it is in the off position.

Mounting Switches. The problem of where to mount the loom switch has been solved in a variety of ways. A common arrangement is to locate the switch

(*Continued on page 231*)

Outsells... because it excels



New Departure, world's largest producer of ball bearings, takes a natural pride in having contributed 62 years of creative engineering to the industrial development wherein lies our country's strength.

Nothing Rolls Like a Ball...

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT

148

Predicting Cotton Yarn Strength

PRESENTING an original formula developed for the purpose of calculating yarn strength accurately. More than a quarter million individual tests and 15 years of research have gone into development of the formula. Test yarns ranged from 10s to 100s and were made of 7/8" to 1 7/16" American and Egyptian cottons.

EXCLUSIVE

By JOHN DUERST
Clark Thread Co. of Georgia
Clarkdale, Ga.

WHEN a cylindrical strand of cotton fibers is subjected to twisting action the fibers assume spiral or helical positions within the strand. This fiber-interlacing process brings about an effective utilization of inherent fiber surface friction by trapping the potential friction which remains latent at repose but becomes active when pull is applied to the twisted strand.

The maximum pull which can be applied to a twisted strand to the point of absolute break is attained when the developed surface friction per fiber is equal to or higher than the force required to break that fiber.

From the foregoing axiom it is apparent that the amount of twist inserted, the cross section of fiber-bulk, the coefficient of fiber friction, and the length of the fibers are factors of equal importance in the development of a yarn strength formula.

The following yarn strength formula is the result of an analysis of some quarter million individual tests of yarns from 10s to 100s, made of 7/8"; 1"; 1 1/8"; 1-3/16"; 1 1/4"; up to 1-7/16" American and Egyptian cottons.

The principles employed for the development of the formula are based mainly on Duerst's Hexagonal Fiber Pattern* theory involving numbers of fibers per cross section as expressed in terms of yarn counts. Thus, number of fibers $= \frac{3000}{\text{counts}}$ for American cotton and number of fibers $= \frac{3200}{\text{counts}}$ for Egyptian cotton. 5/6 of the periphery fibers are subtracted as frictionally inactive due to exposure on the surface of the yarn.

*See TEXTILE INDUSTRIES for September, 1947, page 82.

Development of Yarn Strength Formula

Absolute breaking strength of individual fiber = b

Breaking strength of a number of fibers (S) at close jaw distance = b x S

(S) fibers per cross section twisted to a strand at (S_1) working fibers. (Break of 10" length) $S_1 = S - 5/6$ of periphery fibers. Working fiber strength = $b \times S_1$.

Developed fiber surface friction per yarn cylinder of (L_1) or effective staple length at (t) turns per inch and (u) number of fibers per cross section diameter. $K\sqrt{utL_1S_1}$ = Total fiber surface friction or strength of single strand yarn, where K is the fiber friction coefficient.

Strength of 120 yard skein yarn $= 111\ K\sqrt{u\,t}\ L_1\,S_1$

Yarn Strength Equations

$b \times S_1 = K\sqrt{u\,t}\ \ L_1\,S_1 =$ Max. Break. Str.

Breaking Strength by close jaw break of (S_1) working fibers = $b \times S_1$

Breaking Strength through friction of a 10" twisted strand = $K\sqrt{u\,t}\ L_1\,S_1$

Problem: What twist per inch (t) should be inserted in a yarn of (u) number of fibers per diameter at L_1 staple length? ($L_1 = 1.00$ L when carded, and 1.05 L when combed at L = grader's staple.)

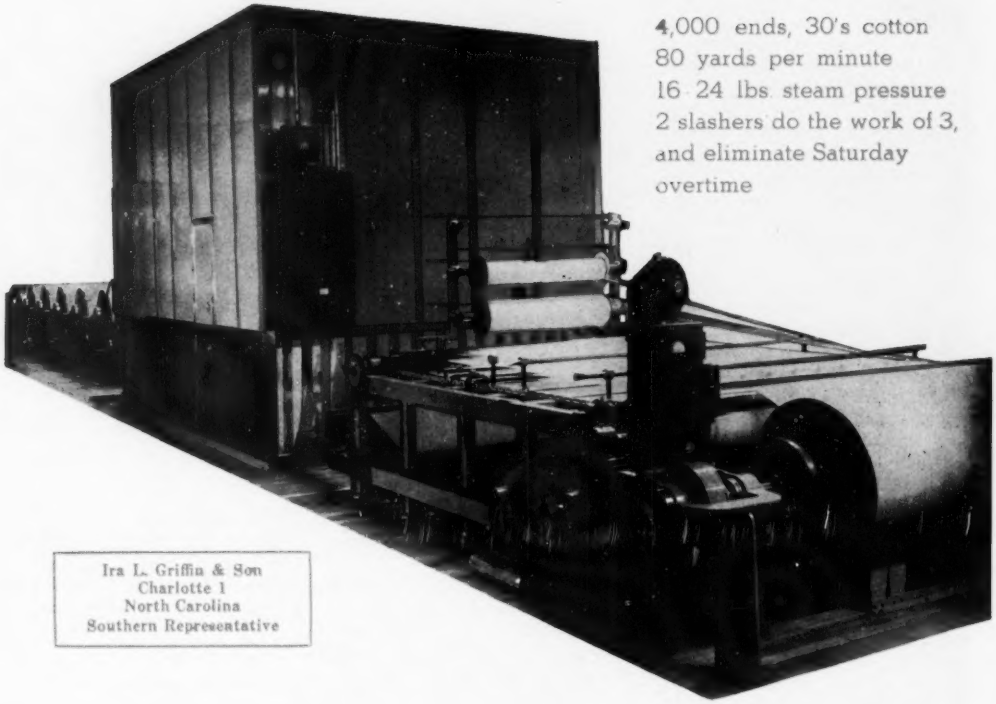
$$b\,S_1 = K\sqrt{u\,t}\ L_1\,S_1$$
$$b = K\sqrt{u\,t}\ L_1$$

Necessary twist per inch whose generated friction force is equal to the absolute fiber breaks per strand at (L_1) fiber length and

Cotton	Friction Coeff.	No. Fibers/ Yarn Dia.	Yarn Counts	Twist /Inch	Effect Staple*	No. of Working Fibers /Cross Section
	K	u	Cts.	t	L_1	S_1
Amer.	.000511	$\left(1+\frac{4000}{\text{Cts.}}-1\right)$	Given	Given	L_1	$(3/4\ u^2 - u)$
Egypt.	.000541	$\left(1+\frac{4270}{\text{Cts.}}-1\right)$	Given	Given	L_1	$(3/4\ u^2 - u)$

*L_1 = 1.00 L when carded; 1.05 L when combed; at L = given grader's length

Can you do this on YOUR PRESENT SLASHER?



4,000 ends, 30's cotton
80 yards per minute
16-24 lbs. steam pressure
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yarn counts as indicated in formula for (u); $t = l/u \left(\frac{b}{K L_1} \right)^2$

(b) actual fiber break
(K) .000511 American
(K) .000541 Egyptian

$$u = \left(\sqrt{1 + \frac{4000}{\text{counts}}} - 1 \right) \text{Amer.}$$

$$u = \left(\sqrt{1 + \frac{4270}{\text{counts}}} - 1 \right) \text{Egypt.}$$

A strand of twisted cotton fibers will reach maximum breaking strength when the total developed fiber friction force is equal to the absolute breaking strength of the "working fibers" of the strand. 5/6 of the periphery fibers will slip, and for this reason a strand of cotton fibers can never break at full absolute strength of all fibers per cross section.

Yarn Counts Abbr.	Graders Staple (l_1)	Actual Yarn Counts (Ne)	Actual Strength (Str.#)	Twist Per Inch (t_1)	Effective Staple (L_1)	Fibers /Cross Section Diameter (u)	Working Fibers (S_1)	Yarn Twist Const. (T_c)	Yarn Strength Multiple (M_1)	Fiber Friction Constant K	Predicted (Calculated) Strength
Combed	Observed	Observed	Observed Lb	Given	1.05 L	$\sqrt{1+\frac{4000}{Ne}} - 1$	$3/4\ u^2 - u$	(u t)	$\frac{Str.\#}{111\ L_1\ S_1}$	$\frac{M_1}{\sqrt{u\ t}}$	$\frac{Str.\#}{K\ S_1}$
22	1-1/8	21.3	110	16.9	1.18	12.74	109	215.3	.00770	.000525	107
28	"	27.5	79	19.4	"	11.10	81.3	215.3	.00762	.000506	80
36	"	35.4	61	21.6	"	9.68	60.6	209.1	.00749	.000532	59
19	"	18.6	128	16.1	"	13.70	127	220.6	.00769	.000518	126
15	"	15.1	162	14.8	"	15.36	161.6	228.2	.00765	.000514	161
22	"	21.1	112	16.9	"	12.80	110.1	216.3	.00777	.000528	108
28	"	27.8	80	19.4	"	11.03	80.2	214.0	.00762	.000521	79
34	"	34.6	62	21.4	"	9.80	62.9	209.7	.00753	.000520	61
40	"	38.5	51	22.8	"	9.22	54.5	210.2	.00728	.000502	53
18	1-3/16	18.5	49	16.8	1.247	8.33	43.7	206.6	.00744	.000517	44
22	1-1/8	21.4	108	16.9	1.18	12.70	108.3	214.6	.00733	.000503	106
28	"	27.6	78	19.4	"	11.08	81.0	215.0	.00735	.000501	80
28	1"	28.7	75	19.4	1.05	11.28	82.1	218.8	.00785	.000504	78
34	1-1/8	34.2	60	21.4	1.18	9.86	63.1	211.0	.00726	.000500	61
34	1-3/16	34.8	63	21.4	1.247	9.77	64.8	209.1	.00736	.000509	63
40	1-3/16	39.1	56	22.8	1.247	9.16	53.8	208.8	.00752	.000520	55
40	1-1/8	38.5	53.5	22.8	1.18	9.28	54.8	210.7	.00718	.000495	53
44	1-1/4	43.6	50	24.1	1.31	8.63	47.2	208.0	.00729	.000506	51
44	1-1/8	43.8	44.5	24.1	1.18	8.61	47.0	207.5	.00723	.000502	45
34	1-1/4	33.5	38	20.5	1.31	7.71	36.8	204.3	.00710	.000497	39
46	1-1/4	41.2	32	23.3	1.31	7.14	31.1	209.4	.00726	.000498	33
								211.6	.00734	.000504	
								213.8	.00741	.000511	
34	1-1/8	34.3	58.8	19.2	1.18	9.86	63.0	189.3	.00664	.000483	58
48	1-1/8	48.3	38.0	22.7	1.18	8.16	41.8	185.2	.00698	.000510	38
29	1-1/4	29.1	79.0	18.2	1.31	10.77	79.2	196.0	.00713	.000509	79
22	1-3/16	21.5	100.0	16.07	1.25	12.7	107.9	178.7	.00668	.000500	102
28	1-3/16	27.25	77.0	15.8	1.25	11.16	82.2	176.3	.00675	.000508	77
36	1-3/16	37.0	54.0	18.3	1.25	9.45	57.5	172.9	.00677	.000515	54

*Str. = $.000511 \sqrt{(u\ t)}\ 111\ L_1\ S_1$

ANALYSIS OF YARN STRENGTH from observed data is presented here. Accuracy of the predicted or calculated strength as determined by Mr. Duerst's formula may be seen by comparing the figures in Colum 4 (Actual Strength) with those in Column 12 (Predicted Strength).

Fiber Fineness Affects Strength of Cotton Yarns

"Textile Industries" Abstract

A RESEARCH study to appear in an early issue of *Textile Research Journal** will show that a relationship exists between fiber fineness and the turns per inch required in a single yarn to obtain optimum yarn strength benefits.

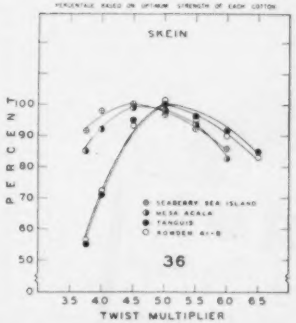
The work was done by Louis A. Fiori and John J. Brown of the Southern Regional Research Laboratory, New Orleans, La. Using a special method to eliminate many variables, the study concerns four types of cotton. In the full length presentation, ample charts supply the reader with necessary facts proving that fiber fineness is also a critical factor of roving twist.

A summary of the findings follows:

Yarn made from coarse fibers loses strength more rapidly as the turns per inch decrease from a point of maximum strength than do yarns made from fine fibers. Conversely, after maximum strength is reached and with increases in twist, the coarse fibers react less sensitively to twist.

Fine fibers, regardless of yarn number, react less sensitively to low twists until maximum strength is reached—after which fine-fibered yarns drop off rapidly in strength, indicating that the fine fibers break more easily than the coarse fibers at high twist.

Graphs will appear in the article to show that the percentage decrease in strength from maximum



EXAMPLE of one of the numerous charts to appear in the full length article in TRJ. This one shows the effect of fiber fineness on the skein strength of 36s yarn.

strength is much greater at low twists for the coarse fibered yarns than for the fine fibered yarns. With a medium-coarse yarn number (16s), the maximum yarn strength is reached with the same twist multiplier for each of the cottons. With finer yarn numbers, however, the fine fibers require less twist than the coarse fibers to attain maximum yarn strength.

Fine fibers, with the exception of a medium-coarse yarn number of high twist, spin into stronger yarns than do coarse fibers; this advantage becomes relatively greater with increases in yarn number.

Going into a discussion of practical mill applications of the study, the authors point out that mills changing to finer cottons will benefit by using lower warp twist multipliers and that small changes in twist can be made with coarse cottons without appreciably affecting yarn strength. Also, that when relatively high twist multipliers are used, a fine cotton will tend to become overtwisted and kink or buckle, whereas a coarse cotton of equal staple length will have less tendency to do so.

Furthermore, according to the authors, if mills change to cotton which is below average in maturity they will find it advantageous to use fewer turns per inch in order to obtain maximum yarn strength; and the use of a uniform fine raw cotton mixture, with re-

(*Continued on page 235*)

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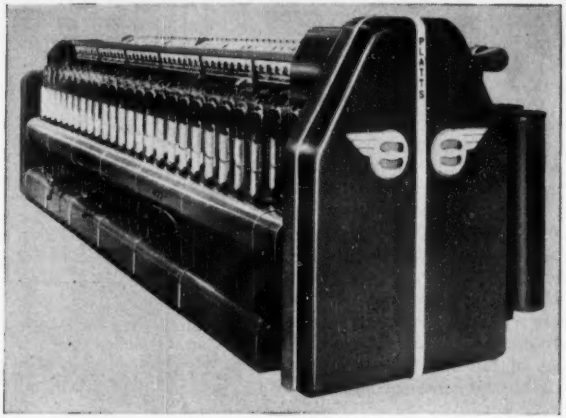

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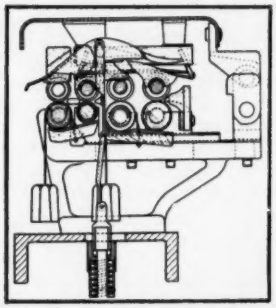

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Tramrail with Cantilever

avoids pillars in weave room aisle

A DIFFICULT problem in loom beam handling was solved at the Gerrish Milliken Mills in Pendleton, S. C., by the use of a new type of tramrail carrier which makes use of a special cantilever feature.

As may be seen in the accompanying illustration, metal columns supporting the roof are located in one of the loom aisles. Because of this condition, it was impossible to handle the loading and unloading of looms to the right of this aisle with a standard overhead crane-and-hoist system, for the columns are in the way of any hoist movement up and down the aisle.

Staff Prepared

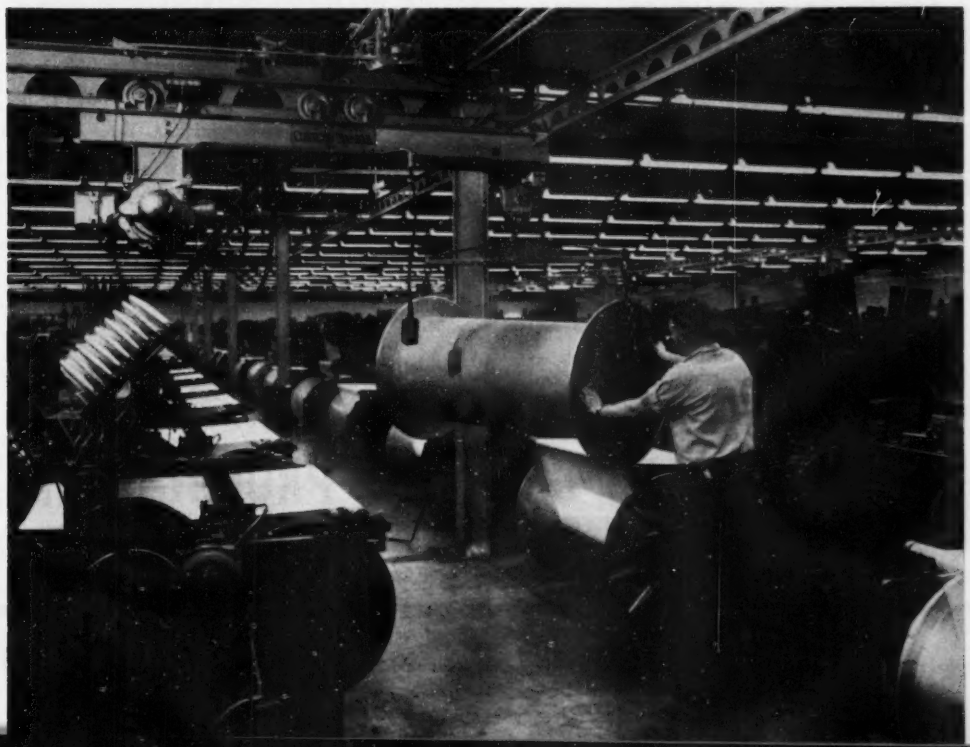
Engineering Sales Co., Charlotte, N. C., sales representatives for Cleveland Tramrail Division of Cleveland Crane & Engineering Co., and materials handling engineers, worked with the Cleveland Tramrail engineers to design a special hoist unit to do the job. The solution is simple but interesting.

The girder of the crane supporting the hoist and serving several loom aisles is made short enough so that it misses the vertical columns in moving up and down the aisles. On the bridge girder is a special hoist on an extension boom which reaches out several feet beyond the end of the bridge girder itself.

Whenever a beam is to be handled in the aisle beyond the columns, the special hoist boom extends out beyond the main bridge as a cantilever and is thereby able to serve the looms behind the columns. The hoist and the cantilever boom are then rolled back under the main bridge so that the loom beam may be carried down the aisle.

This special design gave the mill more freedom in working out the machine layout without regard for the location of the columns.

SPECIAL HOIST DESIGN on tramrail system for serving looms in column line and beyond the tramrail bridge girder in main bays of weave room. Photo shows boom of hoist extended beyond bridge girder.



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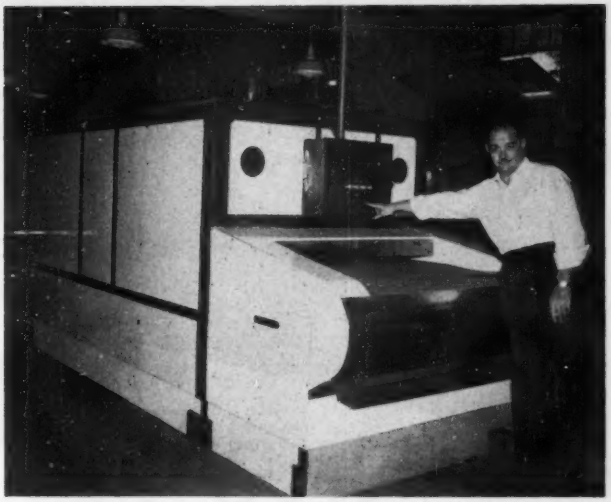

FEED END of Universal Dye Works' high-production, conveyorized hosiery dryer. Ed Earne, plant manager, presses a push button which actuates the conveyor drive motor. Machine dries hosiery in a relaxed state, without forms, and delivers goods ready for pairing.

Hosiery Dryer

cuts finishing costs

EXCLUSIVE

Staff Prepared

AS EVERY FULL-FASHIONED hosiery manufacturer will attest, the vast assortment of sizes, lengths, and shapes carried in a typical mill's line requires a correspondingly vast array of knitting, dyeing, and finishing machinery. It is necessary to have an adequate product flow and scheduling arrangement to prevent confusion and to establish an orderly routine in handling the variables encountered in full-fashioned hosiery production.

But think of the plight of the commission hosiery finisher. For him the problem is infinitely more complicated. He must be in a position to handle the diverse styles of perhaps 20 or 30 mills. The magnitude of size, length, and shape combinations possible is truly astronomical, and for each combination there must be a slightly different finishing procedure. In finishing, diverse styles mean more handling, more routing, more equipment, and more equipment changes — in short, more everything. The commission finisher's plant layout must be a paragon of flexibility.

Take Universal Dye Works, for example. This Philadelphia concern bleaches, dyes, and finishes hosiery for many grey goods houses. Versatility must be, and is the first consideration. Universal was first to install the new Smith-Drum hosiery conveyor drying cabinet; a unit designed to cut down many of the handling steps of post boarding.

The Smith-Drum machine will dry dyed and extracted hosiery in a relaxed state, without employing forms, and deliver the goods ready for pairing.

Rapid production without stops, changes of forms, or excessive handling is one of the principal virtues of the conveyorized dryer. At Universal three operators can process up to 1400 dozen pairs of stockings per eight-hour day through a single machine. If production requirements are less, two operators can manage efficiently.

The Machine. Four separate sections comprise the assembly; a feeding end, two drying sections, and a delivery end. The sections are bolted together to form the complete cabinet. The vital dimensions are: width, 5′ - 5″; length, 28′ - 0″; height, 6′ - 6″.

A Bethanized wire, balanced weave, flexible metal conveyor belt moves the hosiery through the cabinet. The belt is supported by two 14⅜″ dia. rubber covered steel rolls. One roll drives, and the other serves as a tension idler. Six 3¼″ dia. Condersite covered steel rolls support belt sag. The belt is driven by a Reeves variable speed unit with a speed range of 1/5 to 6 feet per minute, and 4 feet per minute is normal belt speed at Universal. A ½ hp, 1150 rpm motor furnishes power.

While in transit, stockings are impinged with hot air directed downward toward the belt. Velocity of the hot air is sufficient to secure the hosiery to the belt while in transit. Each side of the cabinet is provided with a set of rib-type heating coils which permit circulated air to be heated to proper temperature. Four 1½ hp, 1750 rpm vertical motors drive the air blowers. 80 pounds of steam are required from the mill's boiler.

Both ends of the cabinet are provided with controllable fresh air inlets. Universal has found that optimum conditions are met when ports are half-open. On the top of the cabinet, controllable hot air

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outlets are located. The outlets are four 3½" dia. ports which can be connected to the outside by duct work. However, Universal has found that the amount of air exhausted is sufficiently negligible to dispense with exhaust conduits.

Asbestos composition board 1¾" thick, serves as an efficient insulation medium for the cabinet, and a minimum amount of heat is dissipated to the surrounding atmosphere. Temperature measurements have shown 250 F. inside the cabinets with only 90 F. registered on the exterior surfaces. As a result, steam consumption is unusually low.

Controls. A control panel is mounted on the delivery end of the cabinet. Here, the quality of the finish is first noted and machine adjustments to suit can be readily made. Also, the rate at which an operator can remove hosiery from the belt is one of the determining factors of belt speed.

The control panel consists of a temperature controller, a tachometer graduated to read conveyor speed in feet per minute, a start-and-stop push button for the conveyor drive motor, a start-and-stop push button for the blower motors, bulls-eye lights to indicate motor failure, an air filter, and a pressure regulator. A second start-and-stop push button for the drive is located at the feed end so that movement of the conveyor belt can be controlled from both ends of the cabinet.

Depending on production requirements, the operator may regulate belt speed, drying temperature, or volume of air circulated. Construction of the hosiery in process governs the settings. A stocking knitted from 30-denier nylon yarn calls for a higher drying temperature or a lower belt speed than its 15-denier counterpart. Gauge is another factor influencing choice of settings.

Operation. Operation of the conveyorized dryer is simple; semi-skilled or unskilled personnel can be assigned to it. The stockings are subjected to a minimum of handling and require less care in drying. At Universal, the higher paid post-boarding operators displaced by the new machine were transferred to the pre-boarding department where their services were especially valuable, and new employees were hired for the Smith-Drum machine.

Duties of the three operators are relatively minor.

No. 1 operator removes bundles of one dozen stockings from the dyehouse bag as it comes from the extractor. The bundle is partially straightened and then placed on a table near operator No. 2.

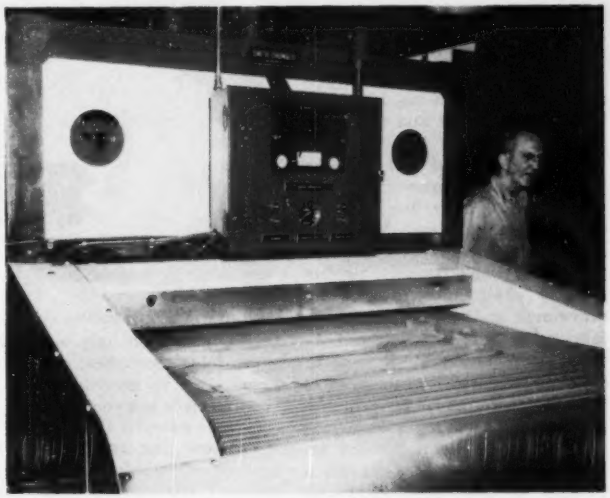
No. 2 operator completes the straightening operation and places the bundle flat on the feed end of the conveyor.

No. 3 operator removes the dozen from the belt at the delivery end, folds the bundle in half, and places it on carrier boards for transfer to inspection and pairing.

Rejects due to snags have dropped 50 per cent below former levels. One of the reasons for the drastic decline is that only the two outer stockings of the bundle are touched by any of the operators during the process. Second, the number of steps involving handling the stockings in drying is greatly reduced.

Other Advantages. The stocking is dried tensionless, and a pleasant appearing dull finish is obtained at Universal.

Matching is positive too. The shape set originating in the preboarding operation remains unaltered. Any defects attributable to improper preboarding show up immediately. Consequently, preboarding deficiencies can be corrected quickly.



DELIVERY END of cabinet. Complete adjustments for drying temperature, belt speeds, and air circulation are set at the control panel at the delivery end. The belt is driven by a Reeves variable speed unit with a speed range of 1/5 to 6 feet per minute.

There usually is a dwell of several hours before the dried stockings are inspected and paired. The stockings, which have been dried in a relaxed natural state, further adjust to room atmospheric conditions before inspection and pairing. No dimensional change after pairing is therefore assured.

Once a pair is matched, Ed Earne of Universal Dye Works points out, it will stay matched. Ordinarily, a packaged pair of stockings will continue to seek equilibrium and finally stabilize. If the stockings were brought to equilibrium before packaging, one thing is certain—the foot size, leg length, and shape of the stockings in the package will be true to the label on the package.

Instrument for Studying Drape

The problem of improving drape in cotton fabrics is being attacked by reducing the qualitative descriptions of drape to measurable, reproducible terms.

EXCLUSIVE

By SIMON WILLIAMS
Fabric Research Laboratories, Inc.

IMPROVING the draping quality of decorative and apparel fabrics has been a problem in the cotton textile industry for many years. With the introduction of synthetic fibers, the increased competitive pressure on cotton goods has made the need to solve this problem more and more important.

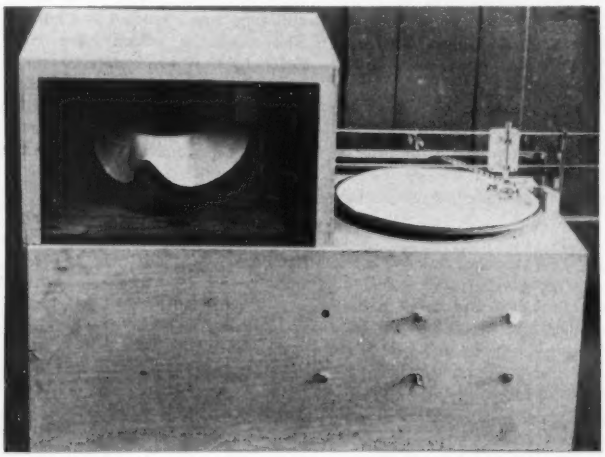
In recognition of this fact, the United States Department of Agriculture, acting under the authority of the Research and Marketing Act, in June, 1949, sponsored the first, long-range research project relating specifically to the improvement of the drape of cotton fabrics, at Fabric Research Laboratories in Boston, Massachusetts.

Drape is generally recognized as the ability of a fabric to form into attractive, curved, richly luxurious surfaces, primarily under the influence of its own weight. In a hanging curtain, drape expresses itself in the folds or pleats, which respond gracefully to the whims of the decorator. In a dress, it is the drape of the fabric which allows it to conform to the subtle curves of the body without ugly bulges and sharp folds or creases; this we all know. But to describe drape in such terms is not enough.

Physical Factors. None of the descriptive words we use—like graceful, attractive, or luxurious—can be defined precisely. These terms cannot be measured. When we tackle the problem of improving drapability, we must be able to measure, quantitatively, what physical factors are influencing the behavior of fabric. We must be able to answer such questions as: what fiber properties influence drape—strength, crimp, elongation, stiffness, moisture absorption, cross-sectional shape? What fabric characteristics are most important —yarn size, yarn twist, weave, finish? How can each and all of these be measured and related to drape? In other words, can we make drape a property that can be measured and predicted from fiber properties and fabric design?

When Fabric Research Laboratories began its research, there were two encouraging aspects to the problem. First, for several years prior to the RMA project, the Laboratories had been working on an instrument which would measure precisely all the qualitative aspects of drape. At the time the research on drape was started for the government, the prototype of the Drapemeter was ready for application and further development. Second, it has been observed that during the past several seasons, designers have made significant improvements in the draping quality of cotton fabric, particularly among the heavier weight decorative fabrics. There did seem to be a physical basis for improving cotton

THE DRAPEMETER, a new instrument for the study of drape in cotton fabrics. Fabric sample is visible in box at upper left; recording mechanism at right. Schematic diagram of parts appears on page 173.



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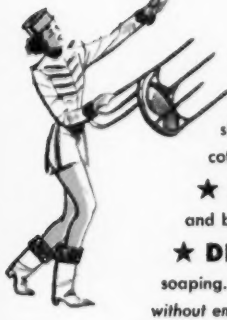

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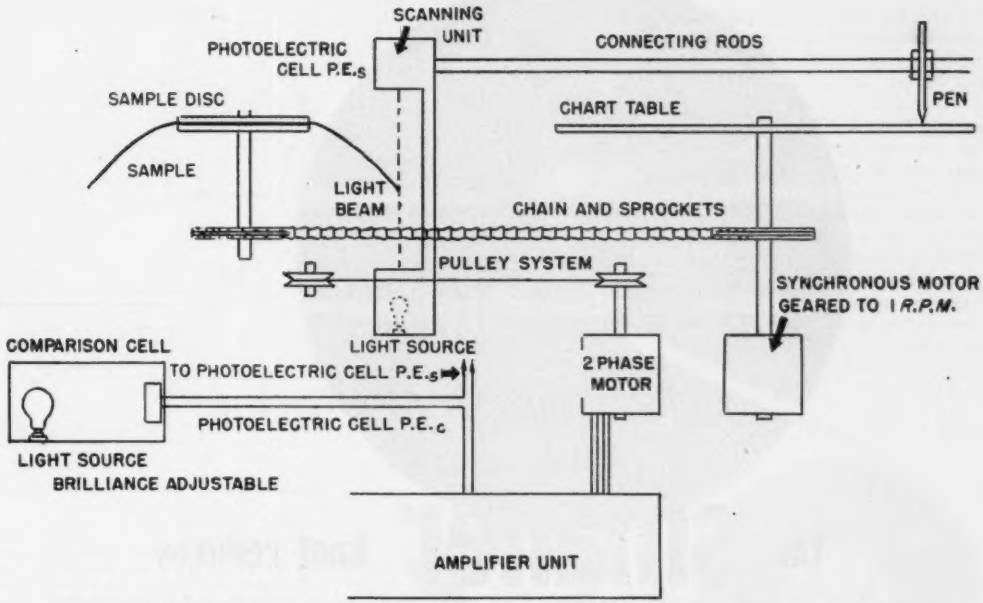
TEXTILE MACHINE WORKS • READING, PENNA.

Billy Direct set the world's pacing record for one mile — 1.55 — at Lexington, Ky., on September 28, 1938.



DRAPE TESTER PARTS are indicated in this schematic diagram. For photo of instrument, see page 170.

drape, and ways could be envisioned to isolate and measure what this physical basis might be.

Logically, therefore, the first phase of the research concerned itself with the perfection of the Drapemeter. This instrument, on which patents and copyrights are being secured by Fabric Research Laboratories, has reached a sufficiently useful state to be reported. A working model of the instrument and a schematic plan of its parts are shown in the accompanying illustrations. Before describing the details of the tester and its method of operation, some of the problems involved in measuring drape should be mentioned.

Drape Measurements. In the past, attempts to make some physical measurement which could be correlated to drape suffered because they did not duplicate the deformations that actually occur when a fabric hangs freely from its edges or when it is draped over a curved surface, like a shoulder or a hip. For example, strip bending tests have been made. In these studies, a strip of fabric is supported at one end, the free end bending or drooping through some angle which characterizes the fabric. However, such a procedure does not distinguish a piece of paper from a fabric, if the two form the same angle with the horizontal. Certainly paperiness is the opposite of drapability.

It became clear that any laboratory test, if it was to duplicate practical experience with fabrics, must not only measure the bending or stiffness properties of the fabric. The test must also include a measurement of the tendency of the material to change from a flat state to a condition in which loose folds may also occur. This is what is pictured in the concept of drape, and this is what must be measured.

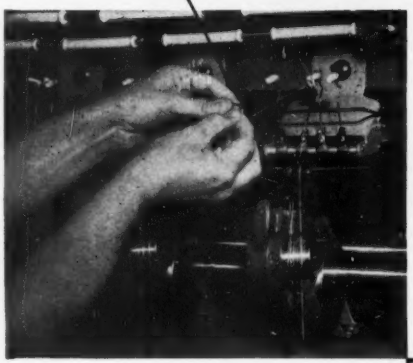
Furthermore, "good drapability" varies with the conditions of use and the kind of fabric. A fabric with acceptable drapability under one set of conditions may be of no value for a different use. A heavy decorative fabric, with very coarse, loosely twisted filling yarns, may serve as a beautiful curtain but be useless in a suit, dress, or blouse. Therefore, any measurement of drape must be able to relate *fabric weight* (which includes both weight per square yard and the total length of material hanging), the potential *range of fabric use*, and the *actual unit measurement* taken directly from the tester.

Procedure. The instrument is utilized as follows: A sample disc of fabric is cut, 10 inches in diameter, care being exercised not to distort the fabric structure. The disc is then placed between two circular plates, 4 inches or more in diameter. The exact relationship between the diameter of the fabric disc and the supporting plate, varies with several factors:

(1) To obtain the most sensitive measurements, it is necessary that the fabric neither remain too straight nor droop too completely as it hangs over the edges of the supporting plate. Therefore, for any sample size, the stiffer the fabric, the smaller the plate and conversely, the more flexible the fabric, the larger the plate.

(2) Frequently, it is desirable to know how a fabric behaves as progressively longer lengths of material are allowed to drape. In such tests, the plate size may be gradually reduced, and methods have been developed to correlate drape with the weight of fabric in the

the smaller knot reduces loom stops—press offs



Knots are tied in the *single* end on the Model 10 Ring Twister—so the knots are smaller than when tied in the ply, and the tails are pulled in when twist is inserted.

These smaller knots reduce grease and oil pick-up, permit the yarn to pass more easily through reeds or knitting needles . . . and also reduce burling and mending costs.

On the Model 10, the feed roll and spindle stop promptly when an end breaks or a run-out occurs, permitting the operator to tie knots in the single end.

The single end stop motion also means that drop ply cannot get into the package nor can roller laps occur.

Only the Model 10 Ring Twister has an automatic stop motion for *each* end in the ply.

Plied yarn from the large twister packages produced on the Model 10 can be wound onto sales yarn packages with minimum piecing up . . . lowers winding costs. The large twister package can also be used as a direct supply to warping creels. Twister packages produced on the Model 10 Ring Twister can be used as a direct supply to jack spoolers by mills processing a variety of small orders.

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Model 10 *automatic stop motion for each end and ply*

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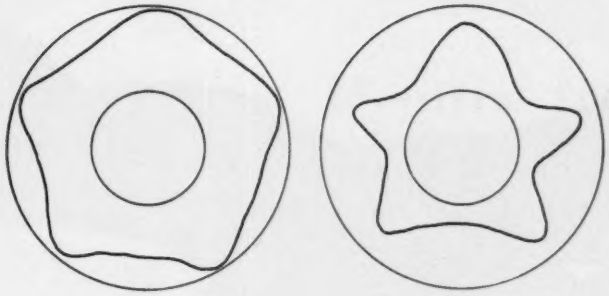


9.4 OZ./SQ. YD. SATEEN 2.7 OZ./SQ. YD. BIRDSEYE

TYPICAL DRAPE DIAGRAMS OF COTTON FABRICS

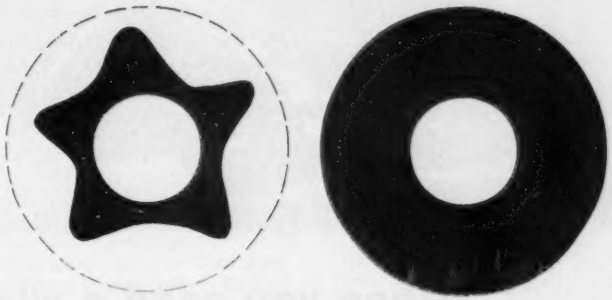
porting plate (2) from the area obtained by the mechanical integrator of the draped sample. This figure is the "area under the draped sample."

(5) Drape coefficient = F = Area under the draped sample (4) divided by the annular ring area (3).

The results obtained with the Fabric Research Laboratories Drapemeter give excellent correlations with the opinions of men in the field. Sample tests, in which groups of fabrics have been classified independently by fabric designers, yard goods buyers, and fashion stylists, show the Drapemeter to be in excellent agreement with personal opinion. Further, it now appears that the physical test can detect differences not readily apparent to the expert in terms of qualitative standards of drape and hand.

Not Perfect. The Drapemeter as described is far from a perfected instrument. However, while improvements are being made constantly, the data currently obtainable are proving extremely useful, and the machine is now being applied to the analysis of over fifty fabrics, whose complete fiber and manufacturing history is known. The fundamental problem of why a fabric drapes and how drape may be controlled is, at long last, being tackled.

WHEN THE FABRIC SAMPLE and chart table are rotated synchronously, the pen traces an accurate outline of the configuration assumed by the fabric in the draped position (see typical drape diagrams of cotton fabrics above). The area covered by this picture of the fabric is automatically measured by a mechanical integrator and the Index of Drape then calculated as explained here.



(1) AREA UNDER THE DRAPED SAMPLE (2) AREA OF THE ANNULAR RING

THE DRAPE COEFFICIENT: F = (1) ÷ (2)

free-hanging area.

Once the fabric sample is fixed into position, it is elevated high enough to clear the platform of the cabinet, and slowly (1 rpm) revolved. As the sample rotates, the edge of the fabric cuts a beam of light which, in turn, controls the radial movement of the chart pen. It can be visualized that the draped sample will no longer be circular in projected outline, and that its edges will follow a scalloped path. Therefore, it is necessary that the pen, which is drawing the outline of the circumference of the fabric sample, move back and forth according to the dictates of the design of the scalloped edge. This control is simply effected.

The beam of light from the light source to the scanning photoelectric cell is held to a constant diameter. When the edge of the fabric cuts this beam exactly in half, the pen remains stationary. If the edge of the fabric protrudes over more than half of the light beam, the scanning mechanism is activated to move away from the sample until it finds the static position. If less than half of the light beam is cut, the photocell moves toward the sample.

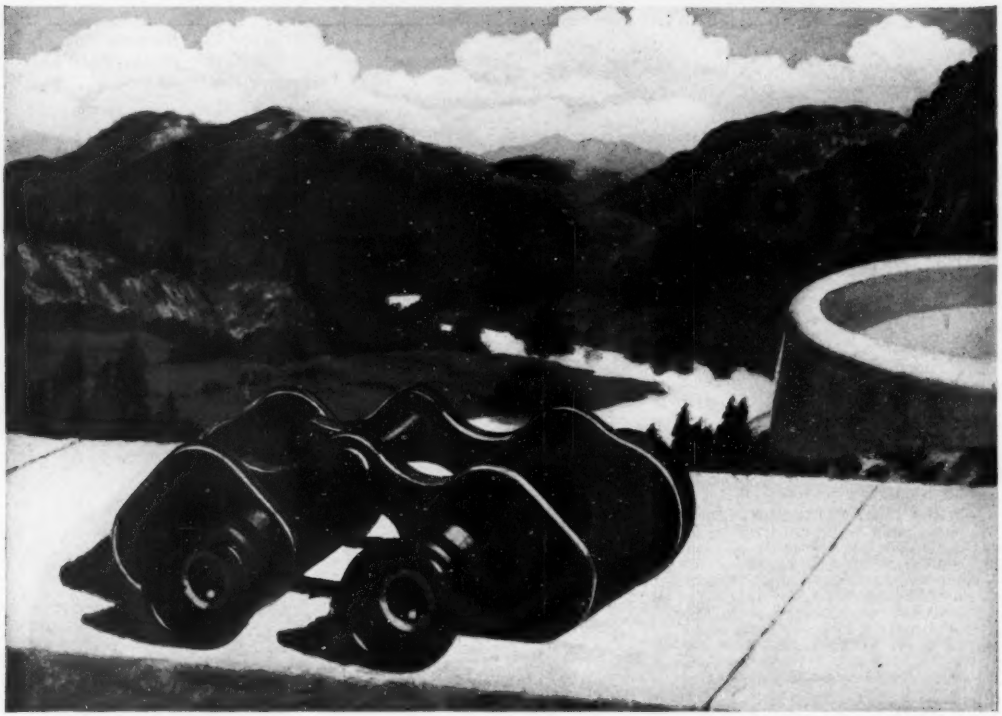
Index of Drape. When the sample and chart table are rotated synchronously, the pen traces an accurate outline of the configuration assumed by the fabric in the draped position. The area covered by this picture of the fabric is automatically measured by a mechanical integrator. The index of drape is then calculated:

(1) Determine the area of a 10-inch circle (the undraped fabric sample).

(2) Determine the area of the supporting plate.

(3) Subtract 2 from 1. This is the so-called "annular ring area."

(4) Subtract the area of the sup-



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Profits from Effective Textile Machinery Lubrication

Article 3—Combing and Drawing*

ALTHOUGH no twist is introduced at drawing, the process determines to a great extent the strength and quality of the finished yarn. This discussion deals with the lubrication practices that promote the general efficiency of the drawing process by reducing staining, increasing uniformity, and increasing profitable production of processed sliver.

bearings

The great majority of bearings of drawing and combing machinery are lubricated by hand. Although the principal production problems are mechanical, the sparing application of correct lubricants results in smoother operation, less injury to individual fibers, reduced oil creep and oil throw, and less staining of drawn and combed slivers.

The various rolls are the fastest of the moving parts, but they never turn at very high speeds. They may have either plain or anti-friction bearings.

The principal problem on these and other hand-lubricated bearings is to avoid over-lubrication.

plain bearings

Wherever oil holes have been provided in any plain bearings, a heavy-bodied textile oil should be applied sparingly once every shift. An oiler should carry with him a wiping rag to wipe off any waste or oil from the machine.

On roll stands, in addition to the daily oiling, it has been found advantageous to apply a suitable roll grease once or twice a month in sufficient quantity to create a visible film.

Oil holes have purposely been omitted from the top detaching and draft rolls of combers. When it is necessary to lubricate these bearings, the bushings are removed, all parts are carefully cleaned, and a small dab of medium cup grease is touched to each gudgeon before reassembling.

anti-friction bearings

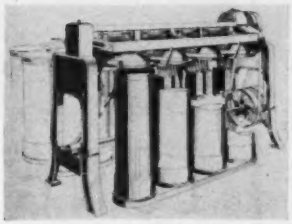
Anti-friction bearings require the *right amount* of a soft or medium-consistency high quality ball-and-roller-bearing grease. Ordinary cup greases, however good, are not stable enough for this service.

Filling a bearing too full is a mistake that is commonly made. Too much grease results in leakage, high temperature, and staining of the processed cotton. Too little grease results in excessive wear and short bearing life.

EXCLUSIVE

By F. S. JONES

Lubricating Department
Socony-Vacuum Oil Company, Inc.



AVOID over-lubrication of bearings on the drawing frame (above) and comber (below). Stains produced here are greatly multiplied by subsequent processing.

When grease is applied by screw-down cups, they should not be given much more than a half a turn weekly.

When grease is applied by a pressure gun, the fittings should first be wiped clean. Then, before applying the grease, the gun should be pumped once or twice to make sure that it is not air-bound, and that the grease will flow freely. Application every 1000 or 1500 hours is usually sufficient. Excess grease left on the fittings should be wiped away.

Top roll bearings are repacked every six months. When this is done, the bushings are first removed and the parts carefully cleaned before hand-packing and reassembling.

Lifting roll bearings of sliver lap machines are serviced every 1000 to 1500 hours. To do this, the bearings are first disassembled and cleaned; then they are packed with

*Article 1, beginning on page 92 in the July issue, covered lubrication of opening and picking machinery; Article 2, page 129 in the August issue, dealt with carding.

STEEL CALENDER RACKS

DESIGNED FOR SAFETY AND LONG LIFE

For safety in operation, the tongue and grooved cut-steel gear rack and rack section of this patented calender rack are firmly fastened in place with a 3/16" soft-stock shear pin set in hardened tool-steel bushings.

With the exception of the cast iron side plates on the head, the entire rack assembly is constructed of steel for hard wear and long life. One assembly, installed 10 years ago, has required only 85c for repairs.

The rack head is equipped with hardened steel ball bearing rollers and hardened steel pins. Furnished complete with cut-steel pinion rack gears.

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Spool Cotton Company's New Atlanta Quality Control Laboratory

The Quality Control and Central Testing Departments of The Spool Cotton Company have been moved to a new office and warehouse, located at 485 Lindberg Drive, Atlanta, Ga. The departments were formerly located at Newark, N. J.

The Clark Thread Company, Inc., and affiliates of J. & P. Coats (R. I.) Inc., now have seven manufacturing plants in Georgia and the departments can function more efficiently near the mills.

Although the mills have their own testing facilities, the Quality Control and Testing Laboratory does complete testing on all products before they are distributed by the selling organization. Research is done at Newark, N. J.

W. H. Bowen, Quality Control Department manager, stated that the new laboratory tests random-picked samples of all finished articles and grey goods independently of mill tests, and the company's products are compared with competitive products, both industrial and domestic. Physical tests are made for size, strength, twist, imperfections, sewing qualities, finish, and fastness of colors to washing.

The laboratory occupies a small portion of the modern warehouse building which has a total of 210,000 square feet of floor space. Testing equipment includes various types of sizing scales, Scott DH, X2, and X5 testers, twist counters, and many high-speed industrial and household sewing machines made by several different manufacturers. Several winders are employed in the testing operations.

In addition to Mr. Bowen, other officials for the laboratory and testing unit are: Thomas P. Dougherty, manager, Central Testing Department, and Henry McChesney, asst. manager, Central Testing Department.

the right amount of grease and reassembled.

gears and gear trains

To promote cleanliness and to remove one of the causes of staining, some mills prefer to run open gears without any lubricant on the teeth. When this practice is followed, it is only reasonable to expect increased wear and eventual backlash. A better practice is to clean the teeth thoroughly and apply a few drops of a heavy-bodied textile oil, using a pistol-type oil can that has been previously adjusted to give only the small, necessary feed.

The spiral driving gears of a sliver lap machine are enclosed. The teeth are lubricated when they dip into a bath of oil that is held in the housing. Oilers should observe carefully the level of oil in these housings. If the level in any housing is low, there will be increased wear and eventual backlash. It is good practice to fill each housing to its proper level every three months. Care should be taken, however, not to fill a housing above its correct level. Too much oil results in leakage and probable staining of the processed stock.

Chain Drives. The chain drives of sliver lap machines are lubricated by brushing on a thin coating of semi-fluid grease once every week. If a heavy-bodied textile oil is used instead of grease, it may have to be applied somewhat oftener.

Correct lubricants, applied regularly, result in smooth operation and the production of high quality sliver. Applied sparingly, they give greater freedom from staining and

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Fig. 2453-G. Large 150-pound O. S. & Y. Gate Valve. All the dimensions conform to the latest standards. Can be furnished in: Stainless Steels, Hastelloy Alloys, Monel Metal, Herculoy, Everdur, Inconel, Nickel, and other metals and alloys.

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less loss of finished yarn.

Even though the saving in power consumption is not as great as it can be in other departments, the saving can still be important. For example, the following record was obtained on 14 drawing frames, having a total of 60 deliveries:

Lubricant	Starting Load (kw)	Running Load (kw)
Ordinary Oil	18.0	8.0
Good Textile Oil	14.0	7.5

(To be continued)

Profits From Correct Lubrication in Combing and Drawing

Although the maintenance of drawing and combing machinery is not the major factor that it has become in some other departments of a textile mill, nevertheless the proper lubrication of this equipment is no less important, because:

(a) This is the last opportunity to rectify any imperfections in the arrangement of individual fibers;

(b) Oil stains occurring in these processes are drawn out to great length, and the damage to the processed sliver is greatly multiplied.

Lint Atmospheres Demand Tight Electric Control Enclosures--AIEE

Records compiled by fire insurance people point up the inadequacy of general-purpose enclosures (NEMA, Type I) for electric control equipment in the lint atmospheres of textile mills, reports the American Institute of Electrical Engineers, pointing out that a substantial percentage of claims paid for fire damage results from failures at control enclosures.

Investigation into the problem by members of the Institute has shown that fine lint, almost dust-like, finds its way through the smallest apertures in enclosures containing contactors, switches, or relays. Magnetic starters, loom switches and fusible knife switches are examples.

According to the institute report, the trouble usually manifests itself after a shut-down period during which the contents of the case cool and moisture in the air condenses on the lint. Wet lint is an excellent conductor, and when the control is re-energized, the conditions for short circuit and fire are set up.

The openings which originally permit entry of combustible fly also provide the route for fire to spread from inside the enclosure to the mill generally, it is claimed. Obviously then, what is needed for lint atmospheres is an enclosing case that satisfies these two fundamental objectives:

(a) It should prevent lint from entering;

AIEE SUB-COMMITTEE FOR THE TEXTILE INDUSTRY

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(b) It should prevent fire and sparks from escaping.

The Sub-Committee on Textiles of the American Institute of Electrical Engineers, comprised of interested engineers from all segments of the textile industry (see list of members in the accompanying box), has studied the problem and come up with specific recommendations on functional features to be incorporated in a suitable case design.

These specifications are offered the industry for its consideration and comments. Worthy suggestions for modification of any provisions included will be incorporated in the final form of the specifications, and these will constitute an ideal for which manufacturers of such equipment may aim to satisfy requirements of lint atmosphere applications.

All who have comments on these specifications are urged to send them to R. S. Gardner at A.I.E.E. Headquarters, 33 West 39th St., New York 18, N. Y.

TENTATIVE ENCLOSURE SPECIFICATIONS FOR LINT-ATMOSPHERE

(1) The enclosure shall be designed to prevent the entry of lint and escape of sparks (meaning construction seams and mating surfaces shall be tight).

(2) The completely assembled, unmounted device shall have no unused openings (meaning there shall be no holes in the case, not even mounting holes, as built).

(3) There shall be no conduit knockouts or conduit openings, but suggested conduit entry locations are to be suitably marked (meaning all openings shall be cut at time of installation).

(4) Where the overload reset button is a separate device, it is to be operable only by opening cover (for resetting).

(5) The enclosure will have sufficient room on each side of the mechanism to accommodate wires of proper size for current rating of the device.

(6) The cover latching device shall be positive and reliable (meaning it shall hold cover tightly closed and not be subject to accidental opening).

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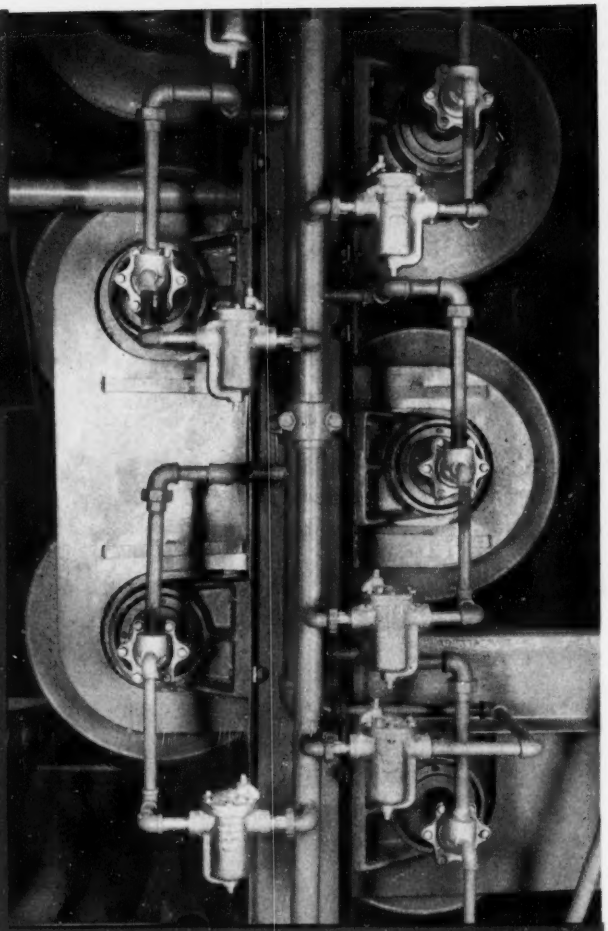
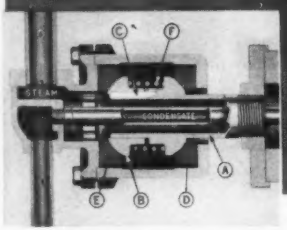
Up-keep expense tumbles due to less trouble, repairs, and waste; important man-hours are saved; production jumps because down-time is reduced. These features are possible because Johnson Joints end the troubles inherent in ordinary stuffing boxes: they are completely packless, self-lubricating, self-adjusting and self-aligning.

"We agree!" say foremost machinery manufacturers and mill men. *"Any machine is a better machine with Johnson Joints."* And, to back up their judgment, these leading machinery manufacturers regularly include Johnson Joints as standard equipment. Naturally, we're proud of this confidence and we'd like you to be a user-booster, too.



Johnson Joints on a set of dry cans installed in a southern mill.



Johnson Rotary Pressure Joint

Nipple (A) is connected to roll. Collar (B) is keyed to nipple at (C), but fits loosely so pressure can fill entire housing. Pressure is sealing force, presses seal ring (D) tightly against nipple. Both seal ring and bearing ring (E) are of special carbon-graphite — eliminate all packing or need for lubrication. Spring (F) is for initial seating only.

Type L Johnson Joint

Illustration at right shows Type L Johnson Joint. This design can be used when the bearing housings may be tapped to provide holes for rod supports. Type L assures proper alignment and longer, trouble-free service. All service conditions are covered by a complete range of types and sizes.

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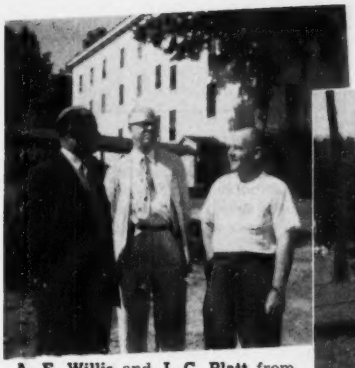
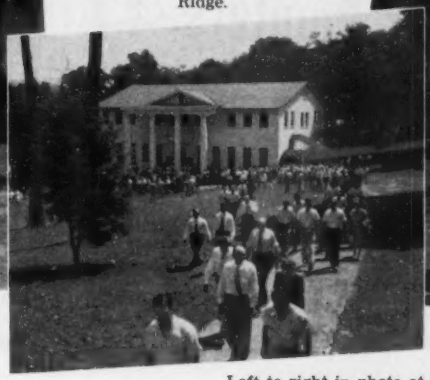


A. E. Willis and **J. C. Platt** from Chicopee's Gainesville, Ga., plant confer with **J. E. Rohrer** of Alabama Power Co., Birmingham.



Personnel men and supervisors leave the meeting hall after the Saturday morning session at Blue Ridge.

Left to right in photo at right are: **Marvin Burnham, Ed. M. Johns,** and **Melvin Butts** of Avondale Mills at Birmingham; **W. E. Betts,** Pepperell Mfg. Co., Lindale, Ga.; and **Wesley Brown** of Avondale's Pell City plant.

Asheville and Blue Ridge

Conferences on Human Relations

set attendance records

Staff Report

MEN, rather than money, markets, or machines are the topic at the two conferences on human relations in industry, held annually in the mountains of western North Carolina.

The thirty-two year old Southern Industrial Relations Conference and its younger cousin, the Conference of Southern Industrial Executives, set new records in attendance with better than 750 supervisors and personnel men at Blue Ridge and 163 top executives at the one day Asheville meet.

The executives, meeting the day before the Blue Ridge conference, heard William Ruffin, Fred Bell, and H. E. Humphries discuss various problems facing top management during this period of defense mobilization. Ruffin, who is president of both Erwin Mills, Inc., and The National Association of Manufacturers, complained of restrictions on management established by government during the past twenty years and stated that unless this trend of government interference in human relations is brought to a stop, management will lose out as a trustee of the workers.

Frederick J. Bell, director of human relations, McCormick & Company, Inc., said that management, as a part of our system of economy, has a three-fold duty; word-wide, national, and locally within the plant. Wise application of the Point Four Program is the best way, according to Bell, to carry our story to the rest of the world. Nationally, there is no great problem. The average American wants to believe in American business; it is merely up to management to conduct itself in such a way that belief in it is possible. Within the plant, management must hold onto the right to decide, but this must not be confused with the workers' right to think.

Bell's company started "multiple management," the system through which junior boards of directors are set up to function as advisory groups, making recommendations to top management. Of 5000 recommendations made by the junior boards since 1932, 4500 have been adopted. The company has, through its enlightened personnel policies, reduced turnover to less than ½ of 1 per cent. The total sales have grown from $3 million in 1932 to $42 million in 1950, and employees get an extra vacation with pay and a bonus at Christmas. "Multiple Management" is the basis for this growth

More than 300 corporations now offer their executives periodic health examinations.

--Advanced Management

A new bale breaker will tear open bales of cotton linters, excelsior, leather scrap, etc., even when bales are so highly compressed that an axe won't cut into them.

--Chemical Engineering

A business conference can be a place where conversation is substituted for the dreariness of labor and the loneliness of thought.

--Steel Magazine

An NPA order (M-75) prohibits the packing of dry dyestuffs and 43 other items in new or used steel drums, beginning Sept. 1.

--Daily News Record

British fabric exports to the U. S. in the first half of 1951 increased over the corresponding period of last year, ranging from 22 per cent gain in linens to over 150 per cent gain in silk and rayon.

--British Board of Trade Reports

Simplified tests to evaluate fabrics for shrinkage, washability and resistance to perspiration and soap are nearly ready.

--AATCC research committee report

U. S. sheep population has declined sharply from 47.4 million in 1941 to only 28 million this year.

--Textile Industries

New information on the tensile recovery of fibers is contained in a report now available from the Office of Technical Service, U. S. Dept. of Commerce.

--Textile Age

The cotton spinning industry operated at 138.9 per cent of capacity during June, compared with 123 per cent the year before.

--Daily News Record

CMP allotments for the third quarter for the textile machinery industry will not be high enough to take care of the replacement really needed.

--Daily News Record

Converters are racing to see which spot and stain resistant process will be the first to be generally accepted at the cutter level. Promotion is being readied at both consumer and manufacturer levels.

--Daily News Record

Inventories of apparel retailers at the beginning of June were valued at $2,356,000,000 compared with $1,866,000,000 the year before.

--U.S. Office of Business Economics

The Centralograph, a device fitted to machines for automatic performance checking, helped increase productivity at the R. Greg Co. spinning mill, Stockport, England.

--Target (England)

A new tape dispenser has a telephone type dial with which the shipping clerk selects the length of gummed tape needed. A twirl of the dial dispenses the desired length.

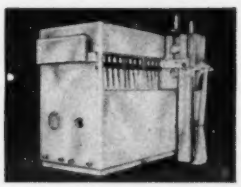
--Chemical Engineering

Copies of a proposed commercial standard of wool felt have been sent out to key associations and manufacturers for consideration.

--Daily News Record

James Hunter Machine Co. reports excellent progress for its first year as owner of Thomas Leyland Machinery Co. Service improvements include a new Hunter plant at Greenville, S. C., to serve the Southern territory. Leyland-Mycock expanders for cotton, wool and synthetic mills are better than ever.

--Advertisement



News from the field

The new FLEXREEL washer is setting new standards of efficiency and trouble-free performance in washing cottons and synthetics in rope form. Users report great savings in steam, water and labor. Traditional Hunter thoroughness in design and manufacture protects you from costly "down time" production loss. The Hunter Field Engineer will give you the details at no obligation. *Write to:*

JAMES HUNTER MACHINE CO.

FOUNDED 1847 *North Adams, Mass.*

PREPARATION AND WET FINISHING EQUIPMENT FOR WOOL, WORSTED & SYNTHETICS

Enjoying the facilities at Blue Ridge is this group from Textiles, Inc., Gastonia, N. C.: **Dan Lamb, Carl Kelley, D. P. Smith, Bill Ashby,** and **Carl Whiteside.**

and the industrial harmony, he said.

H. E. Humphreys, Jr., president of United States Rubber Co., Inc., spoke on management's responsibilities and attitudes. He said that management men would do well to adopt the attitude that they have just as much responsibility to work for their employees as their employees have to work for them.

Southern Industrial Relations Conference. This year's conference, with a total of seven sessions held over a period of three days, had as its theme, "Developing the Most Effective Use of Our Manpower."

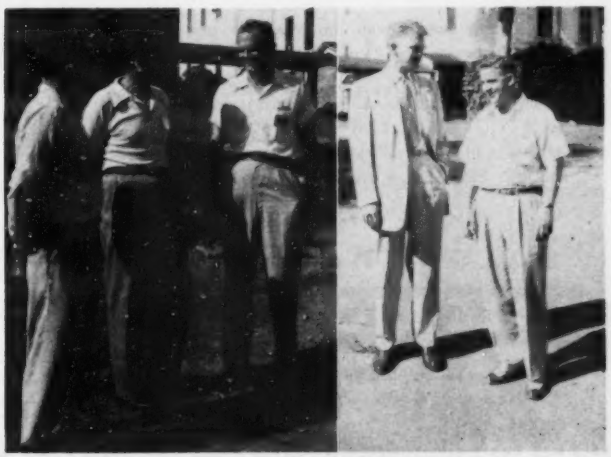
Eight prominent executives addressed the group on various phases of the problem expressed in the theme. One session was devoted to panel discussions on training, union-management relations, government controls, industrial economics, and industrial recreation programs.

In this thirty-second year of the Conference, all present were again impressed with the sincerity of purpose of the group.

It had its beginning as a part of the National YMCA industrial program. In 1919, E. G. Wilson, then a young man, acted as secretary of the first Conference with something less than one hundred present. Thirty-two years later, Mr. Wilson still guides the group, which has grown to better than 750 representatives of industry from 10 southern states.

The board of directors has on it such men as H. Gordon Smith of the textile division of U. S. Rubber; Ted Forbes of the Cotton Manufacturers Association of Georgia; Macon Miller of Fieldcrest; and J. C. Stone of Tennessee Eastman.

Having watched these conferences and having been active in them for so many years, E. G. Wilson is in a position to watch the changes that have come about in management's attitude toward labor and labor's attitude toward management. As he sees it, there is no question that they are closer together today than ever before. Objectives are clearer, and the men at the top have more knowledge of the desires and the abilities of the men in the plant. If this is true, there can be little doubt that Mr. Wilson and his Industrial Relations Conference have helped bring this about in the South.



In left photo are **Bruce Stroupe, Jack Roddy,** and **Harry Hagan,** all from Judson Mills in Greenville, S. C. Right: **G. R. Pittman** and **William G. Wilson** of Burlington Mills Corp. Mr. Pittman is located at the Lakedale plant in Fayetteville, N. C., while Mr. Wilson is connected with the Lexington (N. C.) plant.

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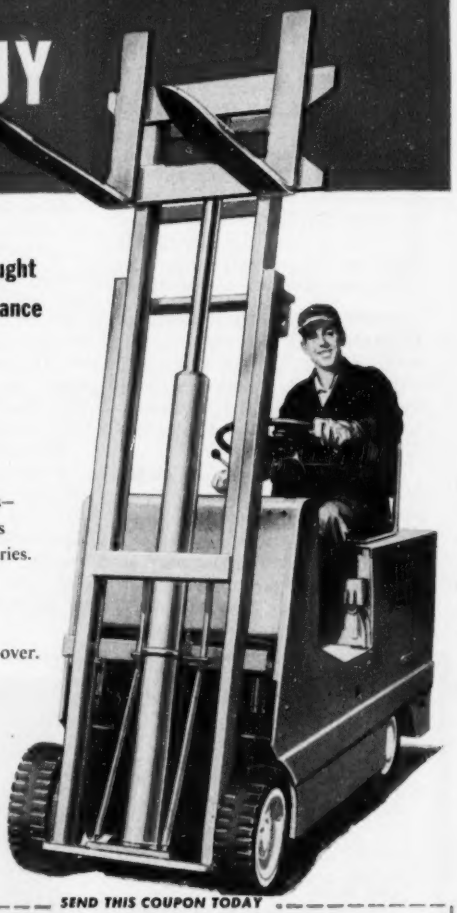

89% of the Yale Electric Trucks sold today are bought by previous users . . . so satisfied with Yale performance and Yale economy that Yale is their choice again.

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They bring to your materials handling problems new shortcuts—new savings in man-hours—new opportunities to answer today's stepped up demands for increased production and faster deliveries.

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EXCLUSIVE

The articles appearing in this department, like those in the feature section on which this symbol appears, were prepared exclusively for TEXTILE INDUSTRIES.

More Discussion on Figuring Blows Per Inch on Pickers

Question Briefed: *Give procedure for calculating beats per inch delivered to stock passing through one process pickers. Is the best work (cleaning, etc.) performed on a relatively thin sheet of stock or on a thick sheet? What is considered the optimum number of beats per inch to secure maximum cleanliness with least damage to the fibers? Are high or low fan speeds preferable?* (CONTRIBUTOR No. 8229, *July*, 1950)

EDITOR TEXTILE INDUSTRIES:

Most all mills have been confronted with the problem of too much waste in their yarn in recent years. Practically all carders have been forced to check their standard set-up and determine what changes could be made to remove more trash. I have recently run some tests to determine what could be done to remove more trash from the stock at pickers without removing too much good staple at the same time. I should like to present some of my observations on the questions outlined by CONTRIBUTOR No. 8229.

(1) *Is cleaning performed best on a thick or thin sheet?* It stands to reason that cleaning may be accomplished best on a thin sheet of stock. If more bulk is fed to the picker at any one instant, the fans have less action on the stock, and there is less chance for the air current to shake the trash from the stock. If a thick sheet is processed the beater loses some of its effectiveness in pulling the cotton from the feed rolls, and the mass of stock will not be broken up sufficiently to allow the heavier particles of trash and motes to drop between the grid bars.

Also an exceptionally heavy mass of stock being fed to beaters may cause the heavier pieces of trash, such as leaf matter, to be cut up into finer pieces and form pepper trash which is much harder to remove than larger trash. The sheet of stock should be as thin as possible on back and middle beaters, but it would have to be heavier at the front beater unless a very light lap is being made. A heavier mass in pickers tends to make a more uniform lap but will at the same time make a trashier lap.

(2) *Optimum number of blows per inch.* On the cleaner grades of cotton approximately 30 blows per inch are satisfactory to give a clean lap, and very few fibers are broken. Tests run at various times on clean grades of cotton show that laps with approximately 30 to 35 blows per inch make a yarn with the highest breaking strength. If the blows per inch are increased above 35 tensile strength of the yarn may decrease because of the increased amount of broken and short fibers in it. If tensile strength is not too important and cleanliness of the yarn is of first importance, then blows per inch should be increased until satisfactory cleaning is accomplished. As far as optimum blows per inch

KINK CONTEST

$ $ Your Idea May Win $100 $ $

ONE HUNDRED DOLLARS will be paid for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by November 15.

Contest Rules:

(1) All material submitted will be paid for at regular space rates, upon acceptance—no waiting to receive payment for contributions.
(2) $100 awarded for winning entry is in addition to regular payment.
(3) Contestants may submit any number of entries to compete in the contest.
(4) All entries for the $100 award must be postmarked not later than midnight, November 15, 1951.
(5) Contributions must not have appeared elsewhere and must not be sent to any other publication.

A photo or rough sketch will make your idea more valuable. Jot down your short cut as clearly as possible and mail it to: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta, Georgia.

ANOTHER DOW CORNING SILICONE PRODUCT

DeCetex 104

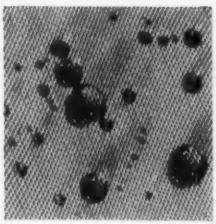
the most durable water-repellent for synthetic fabrics

Here's the kind of durability you have been looking for in a water-repellent treatment for synthetic fabrics. Materials that have been the most difficult to treat—acetate, viscose, nylon, Orlon, Dacron and mixtures of natural and synthetic fibers—can now be given a durable water-repellent finish. And by durable, we mean a treatment that will retain a spray rating of 90 to 100 after 10 dry cleanings; 80 after three 2-hour launderings.

There's no change in porosity, color or colorfastness. The silicone finish is free from mark-off; it imparts a full, soft "hand" and it has a stabilizing effect on some materials.

Furthermore, DeCetex 104 is easily and inexpensively applied from a water emulsion with conventional equipment. You do not have to wash or neutralize the treated fabric and it remains odorless even after aging.

In an ounce of DeCetex 104 you get millions of invisible silicone umbrellas that don't fold up after the first two or three dry cleanings. If you are not already familiar with DeCetex 104, write for technical data sheet BL-9.



This DeCetex treated fabric looks and feels like any ordinary nylon marquisette with a weave as open as a window screen. But water rolls over the fabric unable to wet the fibers.

She's wearing her umbrella of DeCetex treated rayon skarkskin. All she has to do is brush the little droplets off her suit, and she'll be as dry and look as fresh and neat as ever.

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are concerned, I think it may be best to break this factor down into two categories regarding the type cotton used.

On Middling or better cotton 35 blows per inch should be about optimum for removing trash. On grades below Middling it may be necessary to increase blows per inch about 20% to get satisfactory cleaning, but in doing this some tensile strength is sacrificed.

I do not think it is possible to establish an optimum number of blows per inch that will be satisfactory for all grades of cotton. We should bear in mind that the condition of the beaters and grid bars also have quite a bit to do with trash removal. Dull beaters and warped or nicked grid bars will not do a satisfactory job of trash removal, regardless of the number of blows per inch.

(3) *Effect of fan speeds on trash removal.* Low fan speeds will not satisfactorily remove fine trash such as small leaf, and pepper trash. The stock is not subjected to enough movement to shake the trash loose from the stock after it has been loosened by the action of the beater. We have found that fan speeds of approximately 1000 rpm on back and middle beaters do the best job in removing trash at these points. Fan speeds of approximately 1250 to 1300 on the front beater tend to remove more of the small pieces of trash, especially if a Kirschner beater is used. If fans are not in perfect condition, with all blades of the correct size, bolted tightly on the spider, and with no air leaks, it is difficult to determine correct fan speeds. Before any speeds are changed it is a good idea to check the condition of all fans thoroughly.

The best way for any mill to determine the optimum set-up for cleaning various stocks is to run tests on their own machinery because of the differences existing among mills.

CONTRIBUTOR NO. 8308

Reader Places Emphasis on Picker Lap Tolerances

EDITOR TEXTILE INDUSTRIES:

Practically every mill which has any sort of process control attempts to keep its picker lap weights within a certain tolerance. The range of this tolerance varies with the product being made. It is usually determined by the mill management, based on what is believed to be necessary to keep the resulting sliver, roving, and yarns weighing within acceptable limits.

(It is my understanding that certain authorities have found that good yarns may be made from laps which are usually considered to be poor—that is, laps with a high standard deviation. I belong to the old school which believes that to produce even yarns one must have even laps. Therefore, I will hold to this theory until it is proved incorrect.)

What tolerance should be allowed on laps of different lengths? This question has been brought forth by recent developments whereby the picker lap may be compressed and a lap of greater length may be produced, although the diameter will be no greater than that of a conventional lap. One method is to use pneumatic pressure, and another is an improved mechanical braking system. How much should the tolerance be altered upon changing from the conventional lap to these longer laps?

We use a tolerance of plus or minus ¾ of one pound, or a total tolerance of 1½ pounds for a lap with an original standard length of 44 yards, weighing 16 ounces per yard. Let us assume that the length is being increased, first, to 52 yards and then to a length of 58 yards.

A lap 44 yards in length, weighing 16 ounces per yard, will weigh:

44 × 16 oz equals 704.00 ounces.

¾ lb tolerance equals 12 ounces; therefore the lap may weigh 704.00 plus 12 oz; or 716.00 ounces.

It may weigh 704.00 minus 12 oz; or 692.00 ounces.

The weight per yard may therefore range as follows:

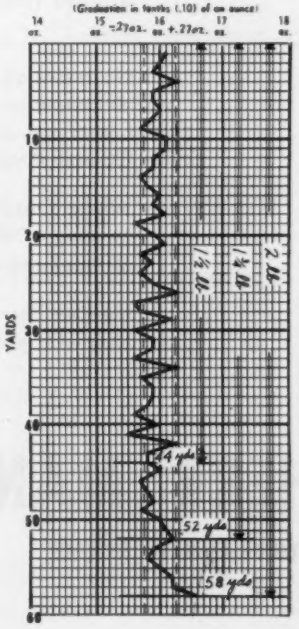
$$\frac{716.00}{44} = 16.272 \text{ or } 16.27 \text{ oz}$$

$$\frac{692.00}{44} = 15.727 \text{ or } 15.73 \text{ oz}$$

The tolerance when figured on a yard-to-yard basis will therefore be plus or minus .27 ounces. This same figure can be obtained by dividing the 12-ounce plus or minus tolerance by 44 yards, thus:

$$\frac{12 \text{ oz}}{44 \text{ yd}} = .272, \text{ or } .27 \text{ oz}$$

Our lap meter test form (see accompanying illustration), somewhat similar to the form common-



What a mean trick to play on Brother LOSS who has been having a grand time lapping up oil waste, but it's true . . . his fun is over.

No rewicking problem with HERR Conical Rings either . . . less oil consumed . . . added life given the traveler. These are but a few of the advantages mills the world over find in using HERR Conical Rings.

Where Quality performance is demanded . . . in Spinning and Twisting of Wool, Worsted, Nylon, Rayon and Blended Yarns of all types and Cotton Twisting . . . HERR Conical Rings are used.

May we have one of our representatives discuss your ring problems with you.

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ly used with the Saco-Lowell lap meter, is graduated in tenths of an ounce. The heavy lines show full ounces, from 14 ounces to 18 ounces, and the form is designed for a lap of 60 yards. An actual lap test is shown in the illustration, and the lap tested was 58 yards long. Horizontal lines have been drawn at 44 yards, 52 yards, and at the total of 58 yards. Vertical arrows have been drawn indicating three tolerances: 1½ pounds; 1¾ pounds; and 2 pounds.

These figures were calculated as follows:

The tolerance of 1½ pounds, or plus or minus 12 ounces, is the basis for these examples.

The tolerance of 1¾ pounds (28 ounces) for the 52-yard lap was determined as follows:

52 x .27 equals 14.04 ounces. The tolerance therefore will be plus or minus 14 ounces, or a total of 28 ounces. This equals a total tolerance of 1¾ pounds. The tolerance of 2 pounds for the 58-yard lap is found as follows:

58 x .27 equals 15.66, or 16 ounces. The tolerance is plus or minus 16 ounces, a total of 32 ounces, or 2 pounds.

The tolerance for a lap of any other length could be found by multiplying the length by the yard-to-yard tolerance of plus or minus .27 ounces.

A large number of mills use a total tolerance of only one pound (16 oz), or a plus or minus of 8 ounces. In this instance the tolerance for each yard of a 44-yard lap would be as follows:

$$\frac{8 \text{ oz}}{44 \text{ yd}} = .182, \text{ or } .18 \text{ ounces}$$

A 52-yard lap would have a tolerance of 1⅛ pounds, found as follows:

52 × .18 equals 9.36, or 9 ounces, with a total tolerance of 18 ounces, or 1⅛ lb.

The tolerance for a 58-yard lap would be 1¼ pounds:

58 × .18 equals 10.44, or 10 ounces, with a total tolerance of 20 ounces, or 1¼ pounds.

The foregoing calculations are relatively simple, but a change in tolerance is frequently overlooked when changing the length of the picker lap. CONTRIBUTOR No. 8395.

Improvised Roving Bobbin Stripper

This item was submitted in a kink contest.

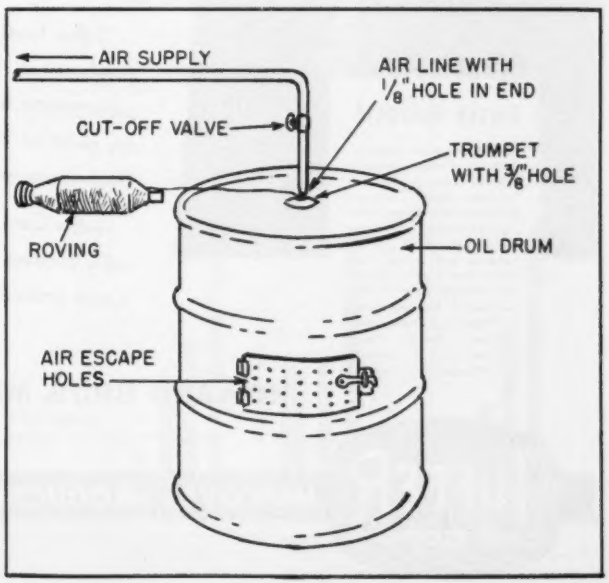
EDITOR TEXTILE INDUSTRIES:

I should like to comment on a time saving and helpful short cut for straightening up and cleaning off pieces in the card room that have been sent back by the spinning room. The bad work from fly frames that is caused by clearer waste, lumps, and hard ends, has to be stripped off by hand usually. This practice consumes a lot of time.

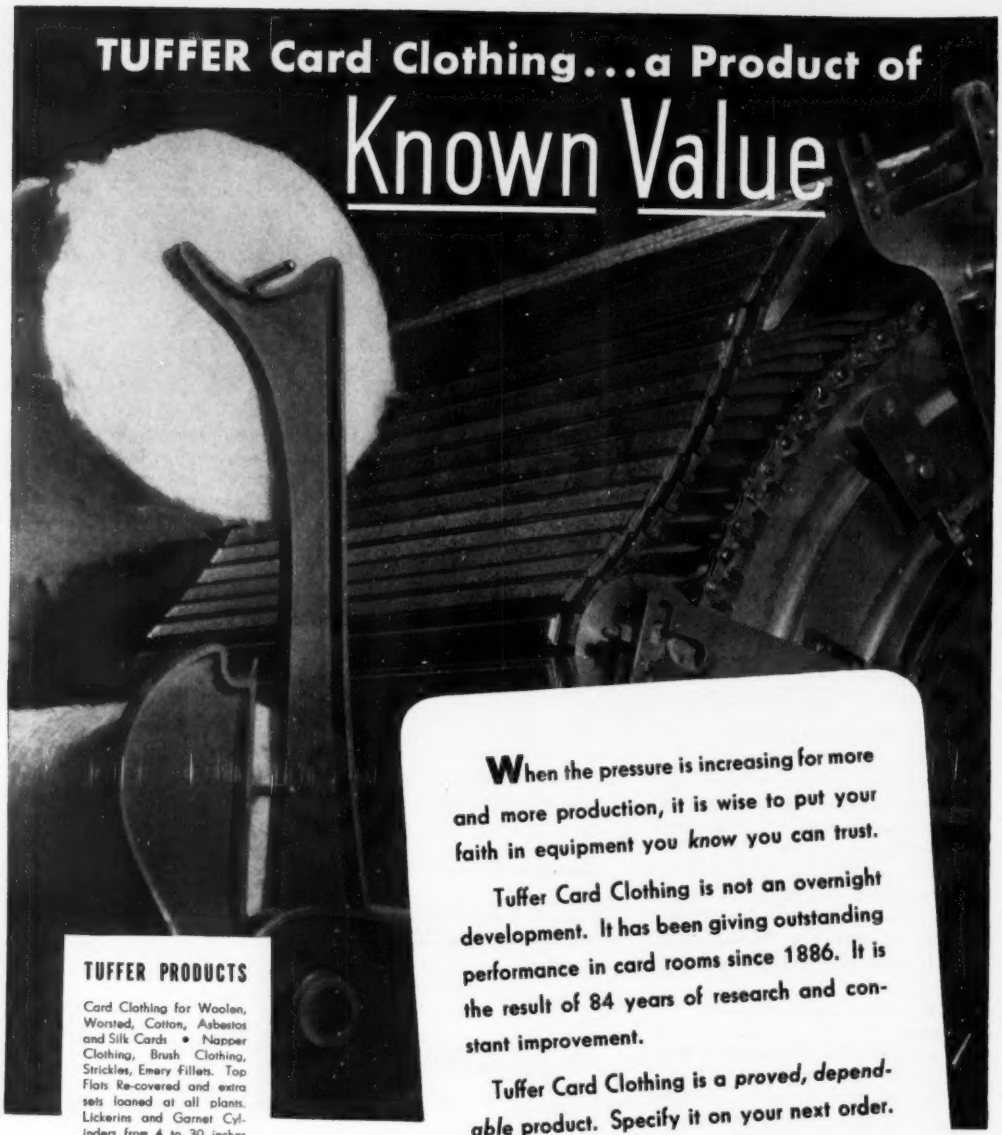
We took an old oil drum and cut a piece 12″ x 18″ out of the side of the drum and put a metal door there. It was necessary to drill ⅛″ holes all over the door to allow air to circulate through the drum. Next an old card trumpet was bored out to ⅜″ and placed in top of the drum. An air line was made available about 2″ from center of trumpet.

As shown in the accompanying illustration, air blows the roving through the trumpet and into the drum at a very fast rate. The roving easily unwinds off the ends of the bobbins. Just place a bobbin near the trumpet and drop the end of the roving into the trumpet and the air does the rest. The waste in the drum is torn up, and when it is run through a waste machine it can't be detected in the pickers at all. By using the drum we clean up our pieces in about one tenth the time it takes to clean them up by hand.

CONTRIBUTOR No. 8316



TUFFER Card Clothing...a Product of Known Value



When the pressure is increasing for more and more production, it is wise to put your faith in equipment you *know* you can trust.

Tuffer Card Clothing is not an overnight development. It has been giving outstanding performance in card rooms since 1886. It is the result of 84 years of research and constant improvement.

Tuffer Card Clothing is a *proved, dependable* product. Specify it on your next order. Let it prove itself on your cards.

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Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-4

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

Relation of Mote Knives to Neps and Trash in Card Web

CARD mote knives are usually considered important in helping to separate dirt, leaves, and seeds from the cotton stock which passes through the card. In some instances it is asserted that the centrifugal force from the licker-in speed gives the heavier impurities the opportunity to leave the licker-in wire surface, and the mote knives strip the impurities off.

When two mote knives are in operation, the distance between the upper knife and the licker-in is greater than the distance between the bottom mote knife and the licker-in. In our mill we found that the optimum distance between the upper mote knife and licker-in was 0.017-inch, and the optimum distance between the bottom knife and the licker-in was 0.012-inch. These settings gave us the best results among the different settings tried. It is possible to set both knives in a closer position to the feed plate than the settings we use; however if they are set too close to the feed plate, more trash may pass through into the carded work. If the setting is too wide, much good fiber may be lost.

We found that 1¼ inches between upper knife and feed plate is the best setting. When mote knives are in operation it is essential that the edges of the knives are kept smooth and parallel to the licker-in across the full width of the card.

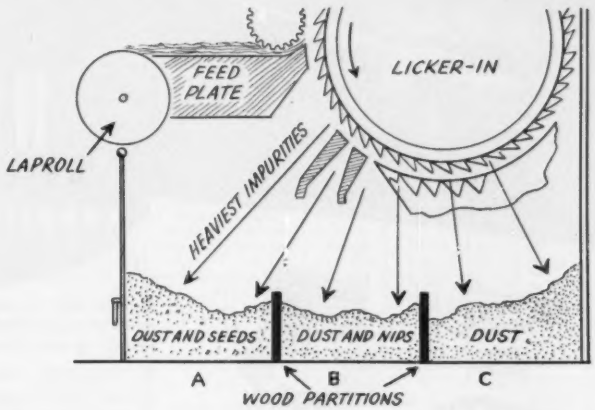
In our mill, tests were made to determine the influence of two factors; namely, one or no mote knives on the amount and quality of licker-in waste, and the amount of neps and impurities in the card web.

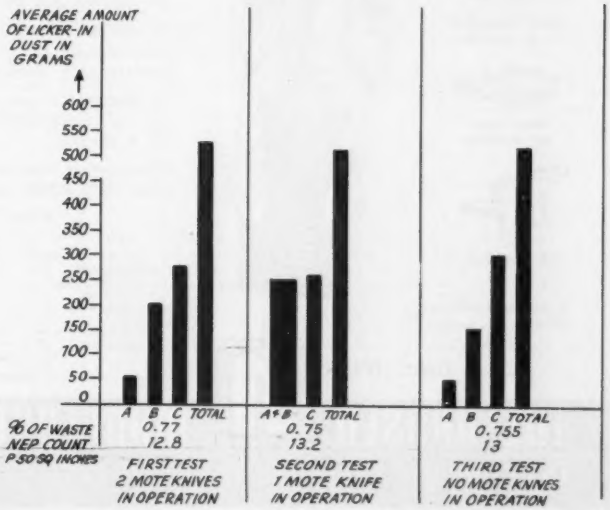
Tests. Picker laps weighing 18½ oz per yard (American cotton, 1 1/32" staple, Strict Middling, no

TEST CONDITIONS

Temperature and Humidity

	Temperature (Centigrade)	Relative Humidity	Per Cent Moisture Picker Lap	Per Cent Licker-in Waste
First Test	20	55	6.5	0.77
Second Test	20	54	6.2	0.75
Third Test	23	50	6	0.755





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OF FLY AND LINT

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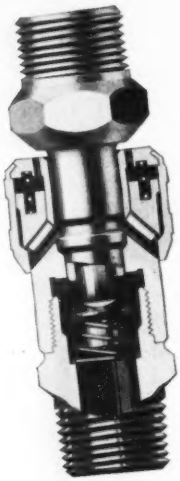
Hose Clamp Plug
No. 5-PP19

Hose Clamp
No. HC-2P19

Air Blow Gun
No. 25

10" Extension Nozzle
No. 26



SINCE 1915

● Lint and fly can be quickly removed from carding machines, spinning frames and looms through the use of Hansen quick-connective couplings and an Air Blow Gun.

By equipping conveniently located air stations with Hansen quick-connective couplings, it is a simple matter to move from station to station with a short hose and the Hansen Air Blow Gun.

To connect the air hose at any station, you merely push the coupling plug into the socket—air is instantly and automatically available at blow gun.

To disconnect, just push back sleeve on coupling socket—plug immediately releases and flow of air is shut off at station.

Change-over from air blow gun to solvent spray cleaner takes only a few seconds.

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reworkable waste added) were fed to a 45-inch card. Feed speed was 7.8 inches per minute; licker-in speed, 450 rpm; cylinder speed, 175 rpm; doffer speed, 8½ rpm; 0.12 hank sliver. A common type perforated licker-in screen was used.

On the first test, two mote knives were in operation. On the second test one mote knife was in operation, and on the third test no mote knife was used. The space under the licker-in was divided into three parts; (a), (b), and (c), by two wood partitions 4½ inches in height across the entire width of the card (see accompanying illustration).

Every test was divided into five parts, and the card was operated for ten hours in each of the five parts. After each ten hours of operation the contents of each of the three bins provided by the partitions were carefully cleaned, and the waste was weighed in grams and tested to determine quality.

In all three tests the picker lap was fed to the card at the rate of 15 lb per hour. In comparison with the first two tests, neither the amount of waste nor the nep count showed any appreciable difference. The amount of seed-containing dust (a) was much less in the last test than in the second. The appearance of the yarns spun from the three tests was similar.

Conclusions. The results of the three tests are interesting in that apparently: there is no difference in operation of a card equipped with two, one, or no mote knives. However, this matter is too important to base a conclusive opinion on a test of about 150 hours running time; therefore any conclusions should be thoroughly checked on a more exhaustive basis. It would be interesting to learn of the experiences and opinions of other mill men who may have investigated the function and effect of card mote knives.

CONTRIBUTOR NO. 8411

If you want to make some easy money, turn to page 189 and read about the $100 prize for the best kink or short cut submitted before November 15.

FIRST TEST

Two Mote Knives in Action

Part No.	Hours Card Operated	(a) Short Waste, Dust, and Seeds	(b) Short Waste, Dust, and Neps	(c) Short Waste and Dust	Total (a, b, c)	Seeds and Nep Count per 50 sq in.
1	10	54	217	283	554	12
2	10	58	198	260	516	13
3	10	52	194	275	521	15
4	10	48	200	290	538	13
5	10	51	183	276	510	11
Averages		52	198	277	527	12.8

Amounts of waste are given in grams.

Part (a) contained short waste with a fiber length of 3/16-inch and seeds.

Part (b) contained short waste and most neps.

Part (c) contained only short waste of ⅛ to 3/16-inch fiber length.

Nep counts were taken one hour after stripping (vacuum stripping every two hours). Counts are averages of ten counts of 50 sq in. card web.

SECOND TEST

One Mote Knife in Action

Part No.	Hours Card Operated	(a) plus (b) Short Waste, Dust, and Seeds and Neps	(c) Short Waste and Dust	Total (a, b, c)	Seeds and Nep Count per 50 sq in.
1	10	265	250	515	14
2	10	244	280	524	12
3	10	270	265	535	11
4	10	231	273	504	16
5	10	239	261	500	13
Averages		250	266	515	13.2

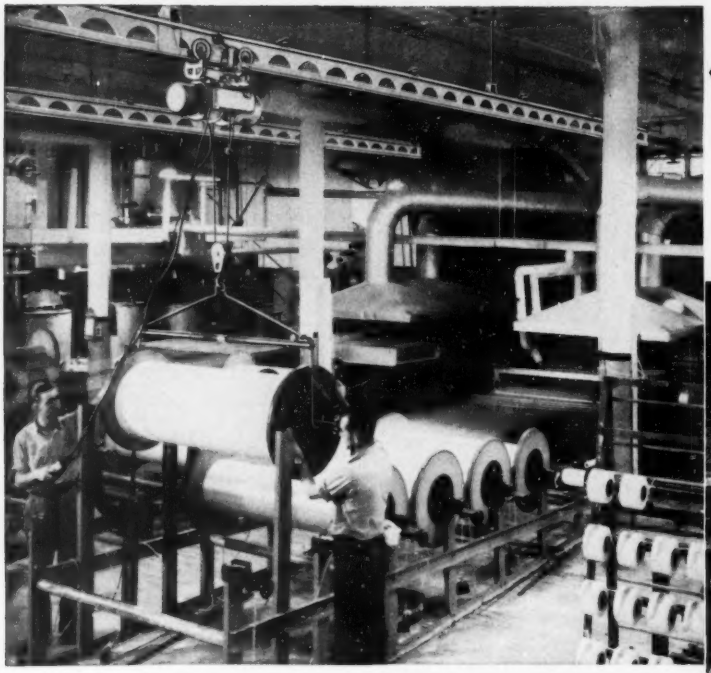
Amounts of waste given in grams. The top mote knife was removed, and the bottom one was set 0.012-inch to the licker-in. In this instance there was no sharp definition between the heavy impurities in (a) and the short waste and neps in (b).

THIRD TEST

No Mote Knives in Action

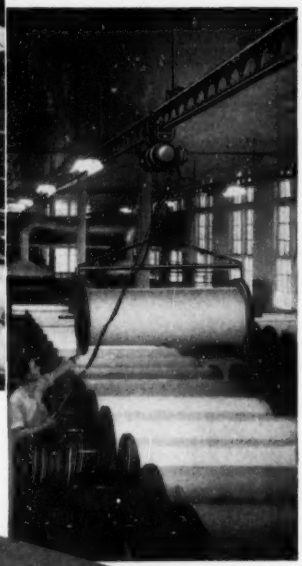
Part No.	Hours Card Operated	(a) Short Waste, Dust, and Seeds	(b) Short Waste, Dust, and Neps	(c) Short Waste and Dust	Total (a, b, c)	Seeds and Nep Count per 50 sq in.
1	10	56	171	303	530	12
2	10	48	160	295	523	15
3	10	53	143	315	511	12
4	10	59	158	310	527	13
5	10	40	137	320	497	13
Averages		51	153	308	517	13

In this instance the definition of different types of licker-in waste was easily discernible, although there were no mote knives to direct the different types of waste being thrown out.



The Tramrail system permits handling beams from warp beam storage to slasher and thence to loom beam storage, entirely by the overhead route. Travel from point to point is direct; no manual lifting or rehandling.

Beams are easily handled in and out of the warp beam storage. The four double-deck racks accommodate a total of 176 beams.



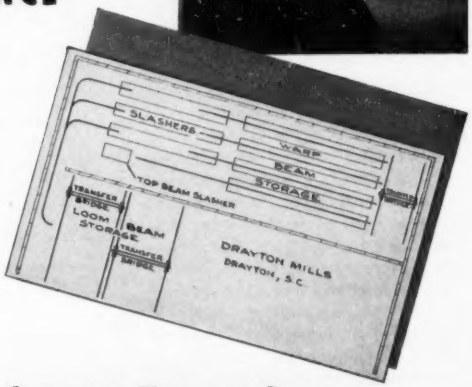
BEAM HANDLING SYSTEM PROVIDES SAFETY and CONVENIENCE

A simple hand-propelled Cleveland Tramrail System handles all beams in and out of the warp beam storage and into the slashers at the Drayton Mills, Spartanburg, S. C.

A 1000 lb. carrier travels on a transfer bridge and on four tracks over the beam storage racks. The bridge may be interlocked with any of the tracks, enabling overhead delivery of any beam to any slasher.

Loom beams are taken directly from the slashers to a large storage section by a manually operated Tramrail carrier which can be run onto either of two interlocking transfer bridges there.

The Tramrail system makes beam handling easy and enables orderliness and greater efficiency.



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OVERHEAD MATERIALS HANDLING EQUIPMENT

NEW Equipment AND MATERIALS

Other items are described on pages 115 and 119

Floor Patching Compound Sets Hard in 15 to 30 Minutes

Permanent repairs to chuck holes or breaks in concrete floors can be made easily and quickly during working hours by using "Por-Rok" quick setting cement. Patches can be installed during lunch or rest periods, the manufacturer claims. Application

Patching compound for cement floors (Hallemite).

is fast and simple—clean out hole or break, mix Por-Rok with water, and pour into opening. Material is self-bonding, will not shrink, and requires no troweling, according to reports. Compression strength of 4500 psi.

Hallemite Mfg. Co., 2446 West 25th St., Cleveland 13, Ohio (I-317).

Tensionless Calender for Tubular Knit Goods

With the "Tube-Tex" tensionless calender now available to mills on a yearly rental basis a circular knitted fabric can be spread, steamed, and folded with a total elimination of lengthwise drag or tension, the manufacturer claims.

Reports indicate that relaxation shrinkage of fabrics finished on this machine is frequently reduced by as much as 75% as compared to conventionally finished fabrics. Many mills using this machine consider and proclaim their fabrics to be preshrunk, the knit goods finishing machinery manufacturer states. Other advantages cited include: uniform widths, wider widths if desired, fleecier brushed fabrics, uniform top and bottom steaming, and greatly improved quality.

Relaxation is performed on dry fabrics; when the cloth leaves the machine it is ready for the cutter. The unit incorporates an internally driven, patented "dual propeller spreader." Steaming and calendering are accomplished while the fabric is in a relaxed, overfed condition. Fabric is then carried by conveyor to a patented tension-free flat folding or rolling-up mechanism as specified by customer.

Machine is variable speed driven from 10 to 45 yards per minute with the average running speed depending upon the weight and construction of the fabric. Only one person is required to operate it.

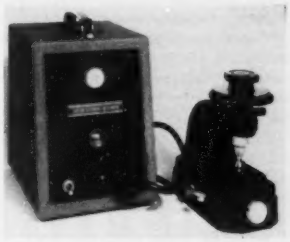
Tubular Textile Machinery Corp., 33-61 54th St., Woodside, Long Island, N. Y.

For additional data, request item I-213, using business reply card on page 254.

Electronic Micrometer

Rapid and accurate measurements to a tolerance of .00002" are claimed for the Carson-Dice electronic micrometer. An electronic circuit used in conjunction with an extremely accurate micrometer head permits "pressureless" measurement and eliminates "feel" as a source of error, the manufacturer states. The electronic circuit is said to be sufficiently sensitive to give a positive "on and off" indication with only five millionths of an inch displacement at the contact.

Several models are available with different work capacities for measurement on compressible or non-compressible materials either conducting or non-conducting in nature. All models are portable, require no leveling and are unaffected by vibrations, variations in temperature, line voltage or aging of electronic tubes.



Electronic micrometer (Dice).

The instrument can be applied to textiles, paper, ribbon, rubber, felt, plastic sheets, etc., with equal ease.

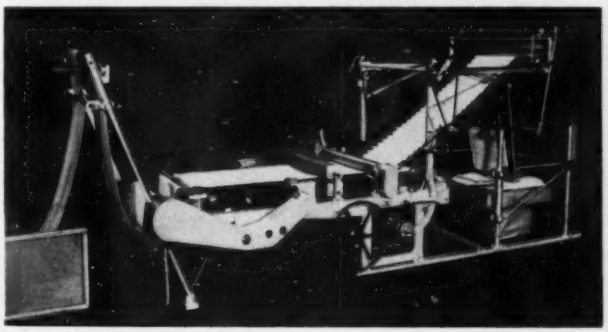
J. W. Dice Company, Englewood, N. J.

For additional data, request item I-211, using business reply card on page 254.

Aluminum Scaffolds for Mill Maintenance

Two major types of aluminum scaffolds are available from one manufacturer for use as work stands for such overhead and sidewall jobs

Tensionless calender for knit goods (Tubular Textile Mach.).



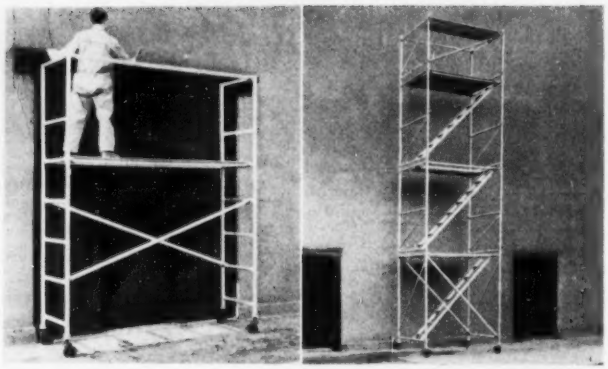
as painting, cleaning, and repairing—sectional rolling and sectional ladder scaffolds. The first type has base dimensions of 4' 6" by 6', while ladder scaffolds are 24" wide.

The sectional rolling scaffolds are, in turn, available in two types—with an inside stairway or with a vertical ladder built into the frame. The complete assembly includes working platforms, guard rails and adjustable, ball-bearing casters equipped with double locking brakes. Extra protection to maintenance workers is supplied by casters that adjust to compensate for uneven ground or floor surfaces.

Normally, one man can erect or dismantle an aluminum rolling scaffold, it is claimed. Interchangeability of parts simplifies erection. Components lie flat for storage or transportation.

The Patent Scaffolding Co., Inc., Long Island City, N. Y.

For additional data, request item I-401, using business reply card on page 254.



Sectional rolling aluminum scaffolds. Left, type with vertical ladder built into frame; right, unit with inside stairway. (Patent Scaffolding Co.).

Cathodic Protection Stops Corrosion of Pipe Lines, Water Storage Tanks

Cathodic protection devices recently developed are said to substantially increase the working life of underground pipe lines, water storage tanks, lead sheathed cable, flocculators, clarifiers, etc.

In an installation for water storage tanks, for instance, alternating current from the nearest outlet is converted to direct current by means of a transformer-rectifier unit and sent to anodes mounted inside the water tank or tower. The current radiates from the anodes in all directions, using water as the electrolyte, to every portion of the underwater steel surface in such magnitude as to oppose electro-chemical action of corrosion.

For underground installations, the soil is utilized as the electrolyte, and a direct current is impressed upon the anodes and radiates through the soil to the metal surfaces. The current enters the metal surfaces of the pipe or other underground structure and prevents the chemical action which corrodes metal.

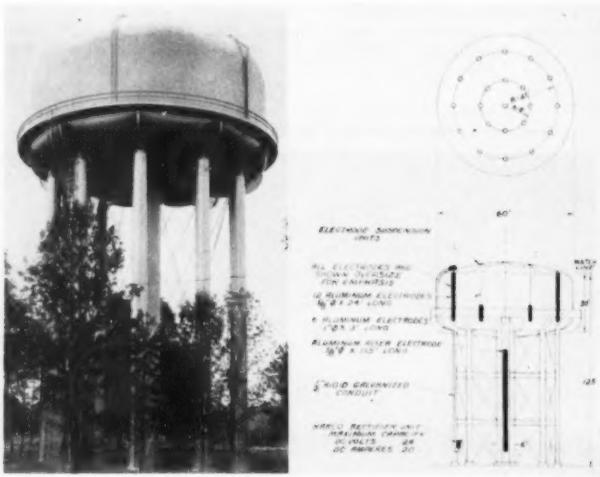
All installations utilize especially designed oil-immersed selenium rectifiers and ground anodes and backfill materials manufactured specifically for these applications. Anodes of graphite, carbon, zinc, magnesium, platinum, aluminum, steel or steel alloys are specified according to the requirements of each installation.

In every application, numerous factors must be considered for maximum cathodic protection. Among these are soil conductivity and moisture content, soil and water chemical characteristics, dissolved oxygen content, temperature, seasonal variations of environment, protective coatings, dissimilar metals, position of other metallic structures, and presence of stray currents.

Cathodic protection engineered by this manufacturer eliminates corrosion in most instances up to 100 per cent, he claims. Results of the installation of correct corrosion control systems include lower maintenance costs, reduction of "down" time, elimination of the use of excess material for "corrosion factor," lower depreciation rates, and greater protection against personal and property damage from hazards resulting from corrosion.

Harco Corporation, 16984 Broadway, Cleveland, Ohio.

For additional data, request item I-203, using business reply card on page 254.



The sketch at the left shows how the Harco cathodic protection device may be applied to a water storage tank. Note electrodes in tank and standpipe.

Metal Specimen Containers for Washfastness Test No. 3A

Specimen containers are now available for the No. 3A Tentative Accelerated Washfastness Test recently adopted by the AATCC. This new test, employing metal specimen containers which are cylinders 3½ inches in diameter by 8 inches in length, duplicates the color destruction and abrasive action of five average commercial or home launderings in just one 45-minute test.

Through the use of easily installed and removed adapters, the unbreakable containers are mounted horizontally at right angles to the shaft in any standard or research model Launder-Ometer. Mounted in this fashion, the test specimens are subjected to a forceful throw, a long slide, and a strong impact. The use of 100 steel balls in each container and a lower liquor volume ratio also serve to increase the abrasive action.

Atlas Electric Devices Company, 361 W. Superior St., Chicago 10, Ill.

For additional data, request item I-204, using business reply card on page 254.

Gasoline Fork Truck for Hazardous Areas

Yale gasoline fork trucks are now available in spark-enclosed models. The new trucks are designed, the manufacturer states, to provide the maximum possible safety operation in gas and dust laden areas, and are designated as Underwriter's Laboratories Type GS. Protection has been accomplished by shielding the electrical equipment against sparking, by providing water type exhaust manifold, by providing a water cooled muffler, and by using static conductive tires. Trucks so equipped will not readily be a source of ignition of any vapor due to electrical sparks, hot metal surfaces, exhaust gases, or backfires, according to the manufacturer.

The Yale and Towne Mfg. Co. Philadelphia Div., 11000 Roosevelt Boulevard, Philadelphia 15, Pa. (I-301).

Shaftless Backstand for Rewinding Machines

A recently developed shaftless backstand represents an entirely new concept in mill roll unwinding, according to the manufacturer. Several new features of this equipment combine to reduce the downtime on mill roll changing to a minimum, it is claimed.

The No. 55 backstand includes automatic tension and side register control. There is a motor for raising and lowering mill roll arms, and one for moving the arms to accommodate different width rolls. The entire working mechanism is enclosed, resulting in lower maintenance costs and greater operating safety.

The device may be purchased with or without slitting and rewinding equipment. It is usable with any type of rewinding machine.

The Bagley & Sewall Co., 500 Fifth Ave., New York 18, N. Y.

For additional data, request item I-216, using business reply card on page 254.

4-Power, 2-Inch Magnifier

Now on the market is a 4-power, 2-inch double lens magnifier which is said to quadruple the size of curved or straight line subjects with

NON-FLUID OIL
TRADE MARK REGISTERED

Keeps Comb-Boxes Cool

In comb-boxes, as well as most other machinery, heat is usually the first sign of wear. NON-FLUID OIL does not "gum up" in comb-boxes as do so-called semi-fluid oils or thin grease substitutes. Drip-less, waste-less NON-FLUID OIL keeps boxes cooler, lasts longer and saves card clothing from damage.

We are prepared to furnish mills with skilled engineering service. Write for Bulletin T5-TI and free testing sample of NON-FLUID OIL.

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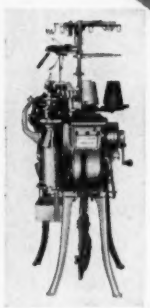
NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

A variety of striped and plain effects is possible on the new ETR Machine.

Note elasticity, uniform stitch and smooth transfer of ETR true rib tops.

SAVE TIME... LABOR COSTS
with the new S&W Economy True Rib
(ETR) MACHINE
Knits True Rib Top Half-Sox and Anklets
in One Automatic Operation



The new S&W ETR Machine combines a new high in hosiery quality and sales appeal with a new low in production costs. Knitting a true rib top and plain knit leg *in one operation*, it achieves a smooth even transfer, uniform elasticity and good, clear ribs and, if desired, smart horizontal stripes in top or boot, or both.

Operating without a web takeup, the ETR Machine saves the time formerly required to separate hose at the knitting machine. The knitted hose is dropped and a new stocking is started automatically from bare needles. This allows one operator to handle many more than the usual number of machines.

The ETR Machine soon will be available in a complete range of sizes for hose for women, children and infants in the required gauges, and for men, too. Ask your S&W representative for full information.

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absolute precision. Called the Hofer & Logan Magnifier, it consists of an all-metal frame 2⅛" in diameter, ⅞" thick, housing two separate optically ground and polished lenses mounted and locked so that they are dust-proof. Unit is not easily broken, is light in weight, and may be carried in a vest pocket. Complete line of holding attachments also available.

Henry Hildebrandt & Associates, P. O. Box 228, Burlington, Wis. (I-302).

Corrosion Resistant Raceway for Electric Wiring

For use wherever corrosive atmospheres are present necessitating constant replacement of wiring systems, a corrosion resistant raceway has been developed. Called "Dekoron-Coated Electrunite E.M.T.," it is standard galvanized electrical metallic tubing to which corrosion resistant polyethylene has been applied by a patented extrusion process. Standard coating is black in color and .020" thick. Special colors and/or thickness at slightly higher prices are available. This coating can also be applied to standard rigid conduit. Easy to install, long-lasting, maintenance-free.

Steel and Tubes Division, Republic Steel Corp., Cleveland 8, Ohio. (I-303).

Tachometer Indicator for Wide Speed Ranges

A new three-range, single head, fixed installation tachometer indicator for speed measuring applications where a particularly wide range of speed measurements is desired, is designated Series 42P and can be used with any series Metron tachometer head. Scales are all a full four inches long with 100 divisions. Calibration is easily adjustable in the field. Can be located up to 1000 feet from head without materially affecting calibration, manufacturer claims.

Metron Instrument Co., 432 Lincoln St., Denver 9, Colorado (I-304).

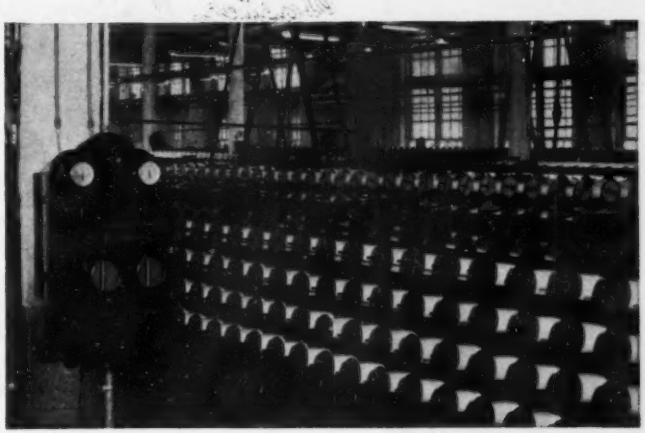
1949 Textile Progress

The Textile Institute, 16 St. Mary's Parsonage, Manchester 3, England, and the Society of Dyers & Colourists have jointly published Volume 1

Continuous and Graduated Humidification

Gradumatic Humidification

Controlled by the improved Certified Climate Psychrostat, Gradumatic Humidifiers operate continuously whenever moisture is needed.... A mere breath from each atomizer (as little as 2 pounds per hour) *at any time*, or as much as 16 pounds of fog-like vapor from each atomizer, if needed, *some of the time*. But Gradumatic humidification *all the time*.



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TWO INTEGRATED SYSTEMS

① Package Dyeing Machine (illustrated)
Mechanical Extracting Machine
Cabinet Type Drying Machine

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② Package Dyeing Machine (illustrated)
Pressure Extracting Machine
Port Type Drying Machine

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Faster, Better, at Lower Cost

Your requirements for package dyeing, extracting and drying are determined by your location, the capacity you wish to establish, the type of colors (direct, vats, developed, naphthol, acid, etc.) you are going to use, the cost of water, steam and electric power.

That is why you should consult Smith-Drum regarding your plans. Qualified engineers, each with a background of textile training and practical experience, will show you what advantages you can obtain from using the proper selection of Smith-Drum package dyeing, extracting and drying machines to meet your own requirements.

The proper selection of "The Best Machine" of each type will insure your getting the best results, in the shortest time at the lowest cost.

Write for Catalog No. PBD-801 and have our engineer call.

SMITH, DRUM & COMPANY

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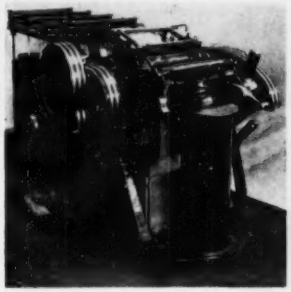
NEW Equipment AND MATERIALS



New Comb for Synthetic Fibers

This Rectilinear Comb for long staple synthetics has a new modified sword to obtain a well-condensed regular web. It is also equipped with a new adjustable false twist device to produce a firm sliver.

All synthetic fibers from 1" - 8" can be processed on this comb which can be set precisely so as to eliminate neps and "dandruff." This improves the quality of the yarn and reduces the cost of spinning and burling, the manufacturer claims.

The comb is being built in 13" and 19¼" web width. It can be supplied either with can creel or ball creel.

Stellite American Corp., 60 East 42nd St., New York 17, N. Y.

For additional data, request item I-201, using business reply card on page 254.

of "Review of Textile Progress," which relates particularly to progress made during the year 1949. Edited by W. J. Hall and C. J. W. Hooper of the Institute and Society respectively, the 342-page book is the work of 24 authors, all of whom are said to be experts in the sections for which they are responsible.

Versatile Metal Alloy

"Chemalloy" is said to be an entirely new alloy of metals and chemicals produced by bringing together an alloy of molten metal plus

MODERN HUMIDIFICATION

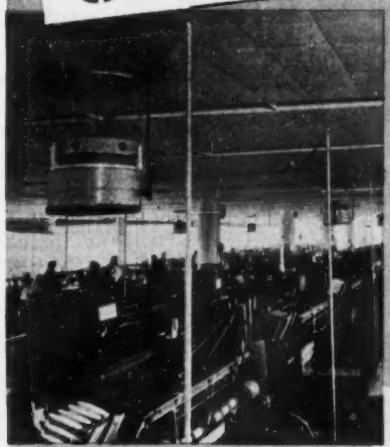
by Walton

-approved for 3-WAY SERVICE!

OK FOR SPOT HUMIDIFICATION

OK FOR BOOSTER HUMIDIFICATION

OK FOR COMPLETE HUMIDIFICATION



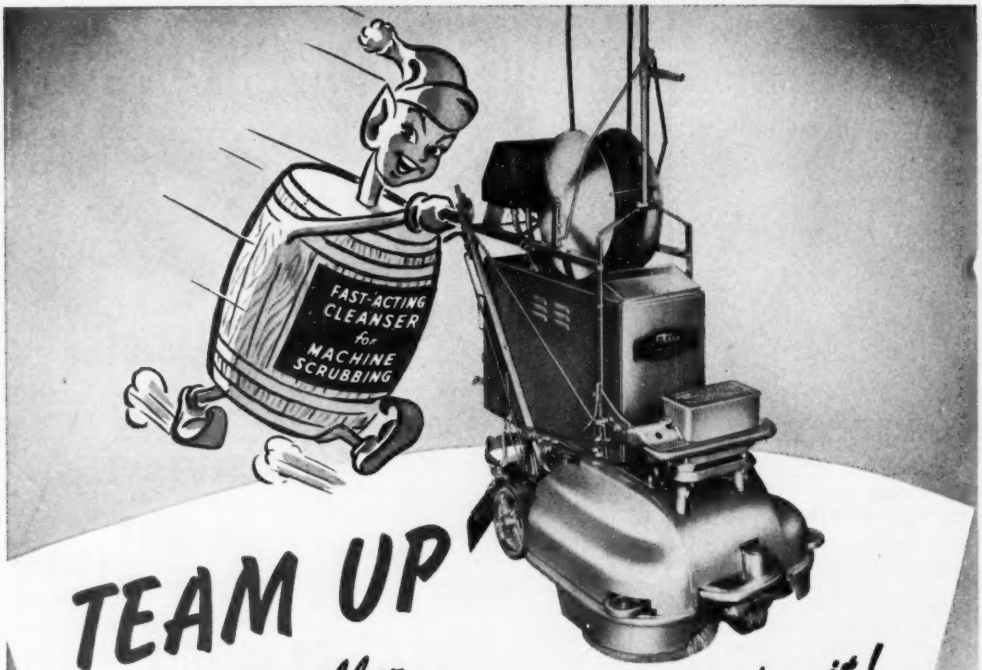
Modern Walton Humidification Systems combine economical simplicity with top operating performance. No costly compressors or duct work are employed. Single booster or complete automatic system, Walton remains trouble-free, dependable and requires practically no maintenance. When plant layout changes occur, Walton installations can be easily relocated, as the only connections necessary are ordinary water supply and simple electrical wiring.

NEW TEXTILE CATALOGS AVAILABLE NOW!

"Humidification for the Textile Industry" and "The Importance of Humidification in the Knitting Industry." — Send for your copies, today! — Address Dept. 21.

WALTON LABORATORIES
INCORPORATED
IRVINGTON 11, NEW JERSEY

SPECIALISTS IN INDUSTRIAL, COMMERCIAL AND RESIDENTIAL CONTROLLED HUMIDIFICATION



TEAM UP

Your Scrubber with a Cleanser that's made for it!

Get floors really clean . . . *faster!*

Cleansers designed for hand-scrubbing cannot be expected to give the fast cleaning action required for machine-scrubbing. In an attempt to get floors thoroughly clean, the operator of a scrubbing machine using a slow-acting cleanser may resort to prolonged brush action, but that needlessly piles up mileage on the machine, increases labor costs, and prematurely wears out the brushes. To utilize the full cleaning capacity of your scrubbing machine — to get floors *film-free clean* in minimum time — choose a cleanser that's specially made for machine-scrubbing. *All Finnell Cleansers are.* And there's a type for every need, including *Setol*, the mineral oil solvent for cleaning oily wood floors, and *Finola, the Original Scouring Powder*, for heavy duty scrubbing of smooth, hard-surface floors.

For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1309 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

The *Finnell Machine* shown above is a COMBINATION SCRUBBER-VAC

for large-area, heavy duty scrubbing. Applies the cleanser, scrubs, rinses, and picks up — all in *one* operation. Cleans up to 8,750 sq. ft. per hour! Vacuum performs *quietly*. (Powder dispenser optional.) The machine is *self-propelled*. Can be leased or purchased.

FINNELL SYSTEM, INC.

Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

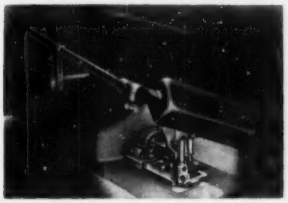
BRANCHES IN ALL PRINCIPAL CITIES

an alloying of a wet chemical mass. According to the manufacturer, it defies rust, does not corrode, works without lubricants as a dry bearing, remains cool while being lathe-turned without coolants, machines freely with cuttings coming off as powder, welds aluminum and pot metal without flux, and withstands immersion in fresh or salt water.

Chemalloy Associates, Gillespie Airport, Santee, Calif. (I-402).

Fluorescent Sewing Light

Recently placed on the market was a fluorescent sewing light containing only two 4-watt lamps. The sensation of heat from the "Lit-Mite" is almost absent since under the most adverse conditions only 13 watts are dissipated. Vibration problem was overcome by installation of small sized sturdy lamp filaments and lock-type sockets. Light is produced at 4500 degrees Kelvin which



The "Lite-Mite" (Ginsberg).

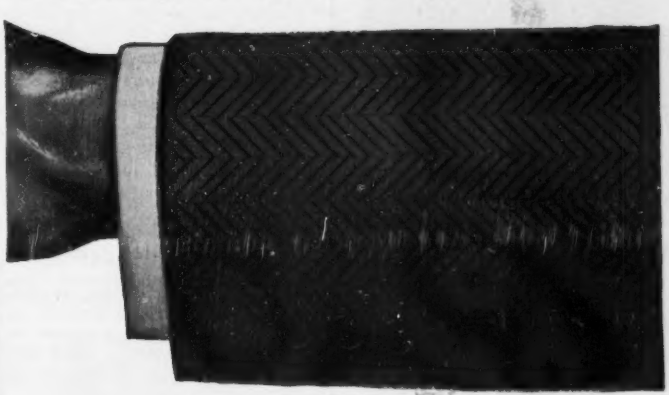
is said to be the best color yet obtainable for visual accuracy. Unusually wide focus range; can be set and held firmly at any angle or position. Interchangeable support arrangements make installation versatile. Manufactured by Stocker and Yale. Ginsberg Machine Co., sole agent.

Ginsberg Machine Co., Inc., New York, N. Y. (I-321).

U-Shaped Tile Conduit for Underground Pipes

Now on the market is a "U-Tile Type Conduit" for one-pipe installations or for installations having several small pipes. These U-shaped tiles are shipped to the job as "flattened cylinders," scored longitudinally on both of the flattened sides.

Military or Civilian Production—



Laurel textile wet-processing specialties improve your quality and quantity

You'll find it easier and more profitable to meet military high standards and consumer quality demands when you specify performance-proved Laurel Processing Agents, as hundreds of processors do year after year. Write today for samples and recommendations.

all fibers — all fabrics

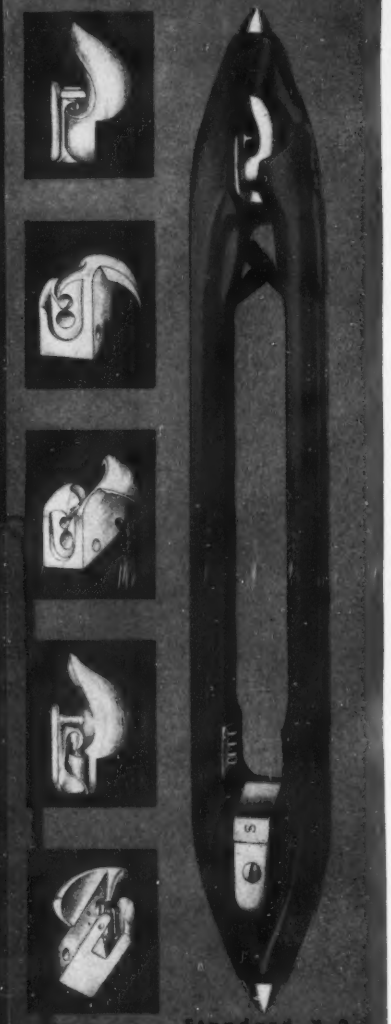
textile soaps, oils, finishes
Laurel
Soap Manufacturing Co., Inc.
Established 1909

Warehouses:
Paterson, N.J.
Chattanooga, Tenn.
Charlotte, N.C.

Wm. H. Bertolet's Sons

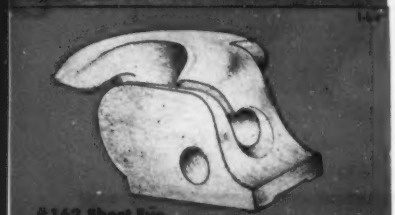
2603 E. TIOGA STREET, PHILADELPHIA 34, PENNA.

Stehedco and Southern



A few of the many popular hook eyes

Standard X-2 Draper Loom Shuttle, with series of interchangeable eyes



#162 Short Eye, solid short cover with complete scroll

NEW Equipment AND MATERIALS

Tapping over each scoring with a hammer splits the cylinders into two "U" tiles. A circumferential scoring at one end of each tile when chipped off provides a rough-edged bevel which permits the jointing mortar to key and bond into the channels formed within the tile sections. This makes possible strong, tight, flush joints, which can be effectively sealed with asphalt waterproofing mastic, the manufacturer claims.

Porter-Hayden Companies, 825 Frelinghuysen Ave., Newark 5, N. J. (I-403).

Can Regulate Pressure on Feed and Draft Rolls of Worsted Spinner

The Isotta Fraschini ring spinning frame for worsted, blended, and synthetic yarns is equipped with a new high draft device having five rollers and a leather apron, but the new patented draft assembly permits adjustable pressure which is applied to the feed roll.

Above the feed roll there are pressure rolls with a pivot mounted on ball or roller bearings similar to those placed above the draft roll. The pressure can easily be adjusted by setting the screw on a cylindrical spring.

The adjustable pressure on the feed cylinder permits the processing of twisted or untwisted slivers from any drawing system such as the French, American, Anglo-Continental or Bradford. It is only necessary to have the creels adjusted for the type of sliver bobbins used.

Also, on the rollers placed above the draft rollers the pressure is adjustable within large limits by setting a screw.

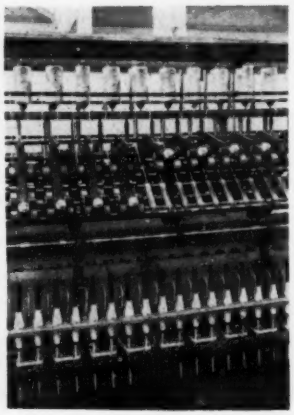
To facilitate cleaning and to reduce maintenance, the four carrying rolls (having diameters of 5/8" - 25/32" - 25/32" - 1-1/32") are placed on saddles on the upper arm of the device. Thus, when the arm is lifted, all the four carrying rolls are lifted too.

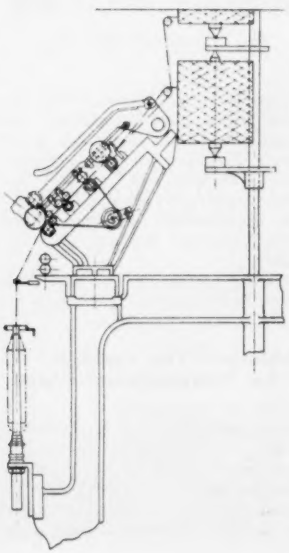
The position of the four cylinders is easily adjustable to any fiber length. All levers and springs or levers and weights are eliminated. The drafting mechanism will accommodate fibers from 1"-8" in length or longer.

Stellite American Corp., 60 East 42nd St., New York 17, N. Y.

For additional data, request item I-206, using business reply card on page 254.

Cross section of new high draft device for Isotta Fraschini ring spinning frames appears at the right. Note that it permits adjustable pressure which is applied to the feed roll. Photo below is view of section of frame equipped with the new assembly. (Stellite American.)





Multiple Use Time Card

A new idea in time cards has been announced. Called the "Multi-Time Card," it is offered in sizes to fit all standard time clocks. As its name

Slehedco and Southern

SOUTHERN...

THE HALLMARK OF "THE WORLD'S FINEST SHUTTLE"!

To withstand the violent, numerous impacts produced by modern high speed looms, a shuttle must be rugged, yet consideration must be accorded the finest precision required in the unerring transmission of the most delicate threads used. *Southern* researchers, designers, development engineers and master craftsmen, working in one of the largest single unit shuttle plants in the world, *(100,000 sq. feet of modern dust and humidity controlled, air conditioned plant with the latest equipment)*, are responsible for initiating every major improvement in this, the most highly developed shuttle used in modern mills today.

Southern—Quality begins with the selection of raw materials and *Southern*'s own sawmills control this selection. Its vast factory and warehouses are always assured the pick of the world's finest shuttle materials. The scientific control of the drying process known as *Tempering* developed by *Southern* engineers, still remains a secret.

Southern has also applied its scientific materials selection, design, and manufacturing techniques to developing the foremost line of eye types for the most difficult yarns and fabrics. Controlled from their own foundry through their own patented machining process.

Southern tips, eyes, and grips when assembled into Tempered Dogwood blocks, produce the shuttle required for today's high speed looms and it is these shuttles that have earned for *Southern*, the title . . . "Scientific Shuttlemakers."

Billet flanked high speed molding machines

Battery of routers forming profile cuts and intricate indentations

Bending and Covering department using secret formula and equipment

A section of Block assembly

One corner of Eye Department

Standard 3-6 CAK Loom Shuttle for 7½" Quill

#800 Rear Tension Standing Pad Eye

STEEL HEDDLE MFG. CO

2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.

Other Offices and Plants

Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.

SOUTHERN SHUTTLES Paris Plant . . Greenville, S. C.

A Division of STEEL HEDDLE MFG. CO

STEEL HEDDLE COMPANY OF CANADA LIMITED

310 St. Hubert Street Granby, Quebec, Canada

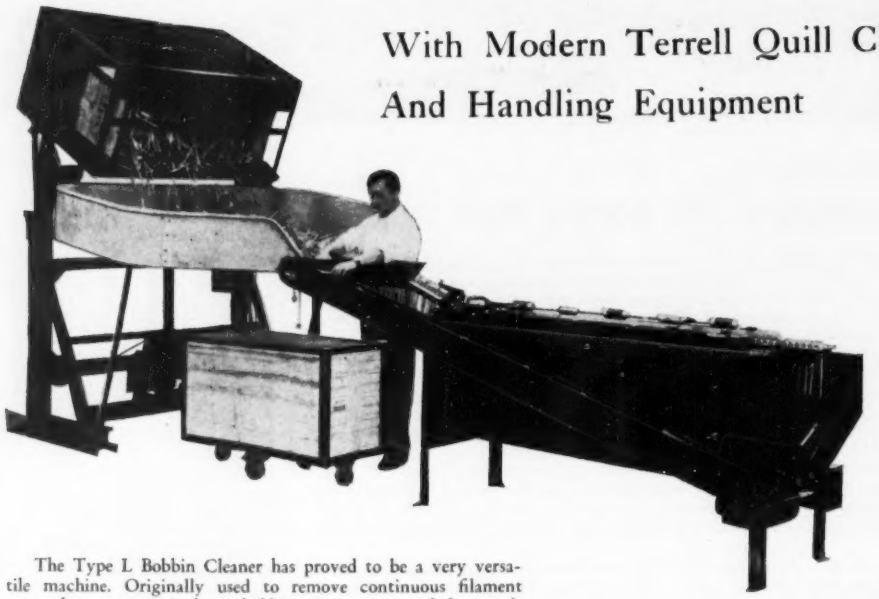
Southern

TEMPERED

QUALITY SHUTTLES

CUT YOUR COSTS

With Modern Terrell Quill Cleaning And Handling Equipment



The Type L Bobbin Cleaner has proved to be a very versatile machine. Originally used to remove continuous filament waste from automatic loom bobbins, it is now used for wool, worsted, spun rayon, and most all cotton yarns. (On some few cotton counts the Terrell Type K is the more efficient machine.)

Mills using the Type L report these advantages:

1. High Production
2. No Bobbin Damage
3. Seconds in Cloth Reduced
4. Lower Labor Costs
5. Lower Maintenance Costs
6. Simple and Flexible Adjustments

Let a Terrell field engineer study your quill cleaning and handling problems, and recommend the most practical equipment for your particular work. Make your request for this service to The Terrell Machine Company, P. O. Box 928, Charlotte 1, N. C.

The TERRELL MACHINE CO., Inc.

CHARLOTTE, N. C.

implies, it is a multiple use time card, being actually eight cards in one—eight individual sheets stapled and tabbed in a cardboard back. A strip of carbon is provided on the back of each sheet under the space where the employee's name and clock number appear. Consequently when the name and number are filled in on the top sheet they are at the same time duplicated on all of the seven sheets below. The card is used by employees in the conventional manner. After the end of the first week, or other work period, the top sheet is simply removed along perforated lines, the sheet underneath is already filled in, ready for use, eliminating the task of filling in new cards seven out of every eight weeks. Other advantages claimed: less storage space required; less time required for distributing cards; possibility of error reduced.

Pattison-Lundal Co., 4303 N. Milwaukee Ave., Chicago 41, Ill. (I-405).

Steel Strap Cutter

A light-weight tool designed to cut flat steel strapping up to ¾" x .035" with minimum effort has a band guide which is said to prevent straps from wedging sidewise between the blades. A flat lower blade permits easy insertion beneath tensioned straps on bales, bundles, and cartons. Forged steel construction. Handles curved to fit operator's hand. 9½" long; weight, 1 lb.

Acme Steel Co., Dept. 30P, 2840 Archer Ave., Chicago, Ill. (I-313).

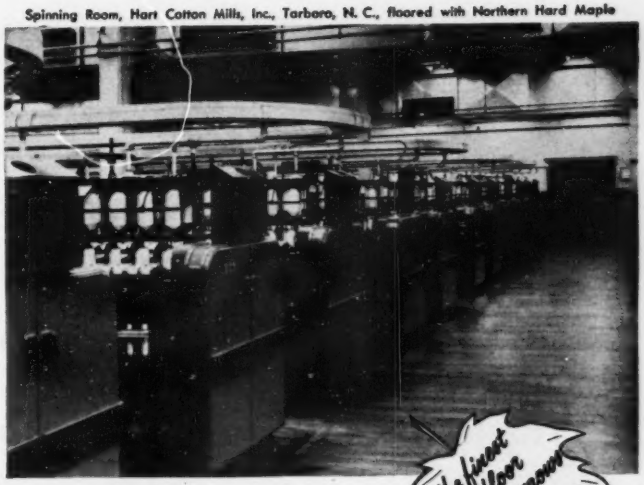
Duller for Nylon Hosiery Is Firm and Flexible

A new type of duller, "Ronyl Duller S" for nylon hosiery has the advantage of not only being a duller but also gives a firm hand, according to the manufacturer, thereby replacing part of the usual finish and at the same time eliminating the need for additional dullers. Being of the emulsion type, it is easily miscible in the regular finish bath.

Cutting down the usual finish by anywhere from 30 to 50% and the replacement with "Ronyl Duller S," are recommended.

The simplicity of its use and the savings it effects make it well worth

Spinning Room, Hart Cotton Mills, Inc., Tarboro, N. C., floored with Northern Hard Maple



the finest floor that grows

NORTHERN HARD MAPLE

comes by its 10 big superiorities NATURALLY

- √ resilient
- √ bright
- √ smooth
- √ tight
- √ warm
- √ dry
- √ non-splintering
- √ easy cleaning
- √ easy re-surfacing
- √ dent-resistant

See Sweet's

Arch. 13i/MA for specification data, or write—

● When Nature evolved Northern Hard Maple she practically "made it to order" for textile mill floors. She didn't leave out a single one of the good qualities you prize.

Check them over. There's *comfort*, to reduce your workers' fatigue—comfort that comes from maple's *resiliency*, its warmth and dryness, its cheerful brightness. There's high *efficiency* in its smooth, tight surface that creates no dust, catches no lint, cleans by simple brushing, speeds plant traffic. There's true *economy* in MFMA Northern Hard Maple's non-splintering, close-grained toughness, its resistance to dents and scars of pointed impact, the way it fights scuffing and abrasion and responds to re-surfacing with new-day brilliance and beauty. Your engineers know all this well. And there's a reliable source of this "finest floor that grows" near your location.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 591, Pure Oil Building, 35 E. Wacker Drive
CHICAGO 1, ILLINOIS

FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

Coming...

TEXTILE INDUSTRIES' 12th MODERN EQUIPMENT & PROCESSING REVIEW ISSUE – November

Tops in Readership and Positive Action

Because it is TIMELY

Read when the impact of Fall purchasing is being felt . . . when production schedules are being planned ahead . . . when new methods and equipment for high-level efficiency operations are being sought after.

Because it is ACCEPTED

Recognized as the prime source for new ideas, new equipment and improvements announced within the past 12 months. The first such issue by any textile publication . . . the 12th annual edition coming up in November.

Because it is EFFECTIVE

Seen by more domestic mill men than see any other textile publication AND ACTED UPON as evidenced by the requests for more than 1500 pieces of additional literature forwarded by T. I. from its 1950 issue, *and still coming in.*

Space Reservations Close October 8

TEXTILE INDUSTRIES

806 Peachtree St., N.E. **Atlanta 5, Ga.**

investigating, the manufacturer claims.

Richmond Oil, Soap & Chemical Co., Inc., 1041 Frankfort Ave., Philadelphia 25, Pa.

For additional data, request item I-205, using business reply card on page 254.

Electronic Metal Detectors

Metal detection equipment featuring four types of small-aperture inspection heads for more efficient and speedier location of metallic particles contaminating non-metallic products was announced recently.

The new metal detectors, which the manufacturer has designated the "Utility Series," will indicate the presence of even minute particles of metals or alloys, whether magnetic or non-magnetic, and regardless of their depth in the material, as products pass through an inspection aperture on an endless conveyor belt or by means of a chute at rates of 10 feet to 1000 feet per minute.

The detector consists of two units. The control unit, which is the same for all models and applications, has an overall measurement of 8¼ inches high, 6¾ inches wide, and 10 inches deep. It weighs only 20 pounds. The second unit, the inspection head, is provided in four different styles to meet specialized installation requirements.

Materials passing through the inspection aperture are screened by a high-frequency electromagnetic field, generated by scientifically designed coils embedded in a water-proof material. High-frequency power is fed to the coils from a self-contained electronic oscillator, and the reaction caused when metal is present in the material being screened operates a relay which triggers either a signaling device (lamp or bell) or an automatic marking or ejecting mechanism, or a combination of these, whichever is desired.

All models have a power requirement of 115-volt, 50/60 cycle, 70-watt a-c.

Designed and built by the Engineering Products Department, RCA Victor Division of the Radio Corporation of America, the new metal detectors will be marketed by the Eriez Mfg. Co., domestic and Canad-

INVESTIGATE
Tower
TEXTILE EQUIPMENT

MECHANICAL
PAD

Can the installation of a Tower Mechanical Pad help solve your production problems? This unit is representative only of the broad range of Textile equipment now being offered by Tower.

Our engineers will consult with you in the design and installation of the finest in textile equipment, to meet your most exacting operational requirements.

Write for free booklet on Tower Textile Equipment

IRA L. GRIFFIN & SON
Charlotte 1, North Carolina
Southern Representative

Tower Iron Works
Established 1835
50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

NEW Equipment AND MATERIALS

ian distributor for RCA metal detection equipment and by RCA International for foreign export.

Eriez Manufacturing Co., Erie, Pa

For additional data, request item I-207, using business replay card on page 254.

Battery Charger for Industrial Trucks

Operated on the selenium rectifier principle, a new battery charger for units up to 55 ampere-hour capacity is designed to give simplified, maintenance-free operation, prolong battery life, and save power, according to the manufacturer. An automatic controller governs the amount and time of charge. There are no moving parts. Only three simple steps to perform when charging a battery—plug it in; set clocks; throw a switch. Available for either lead-acid or nickel alkaline batteries.

The Yale & Towne Mfg. Co., Philadelphia Div., 11000 Roosevelt Boulevard, Philadelphia 15, Pa. (I-311).

New Type of Mixer

Designed for processing operations where propellers are generally ineffective, the "Dispersator" can be used for speedy emulsification, dispersion, and intimate mixing. It consists of a cylinder rotating at a high speed. The centrifugal force resulting from this high-speed rotation forces the product outwards through nar-

The "Dispersator" by Premier.

row slots in the wall of the cylinder under considerable pressure. The effect is said to be two-fold: First, the product is sheared at high speed as it passes through the slots; secondly, the columns of liquid emerging from the slots are further sheared in coming into contact with the slower moving mass of liquid in the mixing vessel. Available with fixed or flexible shaft drives.

Premier Mill Corp., 218 Genesee St., Geneva, N. Y. (I-408).

Improved Heat Exchanger for Textile Applications

An improved heat exchange unit which requires no welding or soldering in the assembly has been developed for use when steam coils are integral parts of textile processing equipment. The corrosion-resistant assembly has a mechanical joint that requires no bonding agent, thus assuring maximum strength at the joint.

In making the exchanger, ⅝" x .049" wall stainless steel tubing made by Alloy Tube Division, The Carpenter Steel Co., is mechanically bonded to flat plate type fins of stainless steel as follows: The fins are stamped and belled, forming a bonding collar at each opening. This provides a broad, flat surface instead of a sharp edge at point of contact with tube. A tool steel bullet, propelled by compressed gas, is forced through stainless tube, expanding it uniformly against the continuous surface formed by the collars of the fins.

The Trane Company, LaCrosse, Wisconsin (I-702).

New Type of Fast Color Bases

"Spectrolenes," a versatile series of stable fast color bases making possible rapid mixture with combinations of naphthols for a large number of brilliant shades, have been announced. They are said to be completely diazotized and stabilized to prohibit coupling with naphthols in solution or with naphtholated material, until the stabilizer is broken down. The base is released from the stabilizer by the action of acid or acidified steam, such as an acid ager, permitting complete coupling of the naphthol with the fast color base, the manufacturer claims.

When these bases are used, loss of color value due to prolonged storage is cut to a minimum, according to reports. The "Spectrolenes" are mixed fresh with the naphthols in the plant

...but TENNANT
DRY-CLEANING
makes the difference!

What a contrast! An old, oil-soaked floor made 533% brighter... safer than before... and given a smooth, hard surface that resists dirt penetration —*all because it's dry-cleaned the* TENNANT *way.*

Gives you BRIGHTER, SAFER FLOORS... AT LESS COST

Are there dark, slippery floors in your mill due to prolonged wet-scrubbing? Then check these advantages of the TENNANT System:

RECONDITIONS your floors. Fast, easy-to-use Tennant machine brings your floors to life again! Gets rid of dark, rough, oil-soaked fibers... leaves floor bright.

HARDENS surface to resist wear. Special sealing process fills, binds and hardens wood fibers. Makes your floor resist dirt penetration... prolongs floor life.

DRY CLEANS, eliminates scrubbing. A fast, one-man job... with no mess or bother. Keeps floor lustrous, DRY, non-slippery. Enthusiastically approved by hundreds of mills.

WRITE TODAY for full information.

G. H. TENNANT CO.
2524 NORTH SECOND STREET
MINNEAPOLIS 11, MINN.

TENNANT INDUSTRIAL FLOOR MACHINE

- Cleans floors, picks up soilage.
- Complete accessories for ALL your floor maintenance work.

Tennant Floor Machines have 12" or 16" revolving steel wool roll (or other accessory) that smoothly removes dirt and traffic stains. Very speedy and easy to use. Provides a smooth, dry, hard surface... saves man-hours.

ASK FOR ILLUSTRATED BULLETINS

The way to finer floors
TENNANT
Floor Maintenance System
ESTABLISHED 1870

The Tennant System ENDS SCRUBBING

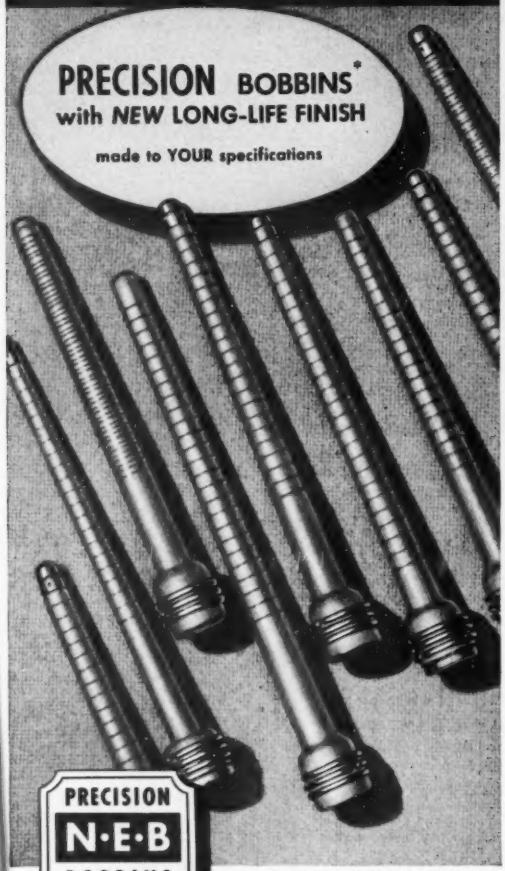
Floors, like roads, are safer when DRY!

Precisioned to Size — Precisioned for Concentricity
Precisioned for YOUR Spindles . . .

For COTTON and SPUN RAYON

PRECISION BOBBINS* with *NEW* LONG-LIFE FINISH

made to YOUR specifications



PRECISION N·E·B BOBBINS

*For SILK and SYNTHETICS — COTTON and SPUN RAYON — WOOLENS and WORSTEDS

Every NEW ENGLAND BOBBIN is tested for concentricity; for smooth, vibrationless running at high speed; to reduce spindle wear. The smooth New LONG-LIFE Finish developed by New England Bobbin & Shuttle Co. withstands heat up to 125°, chemicals in detergents, hard and continuous use. Lasts longer than conventional finishes. Include NEBs in your next requisition — your next order — and compare!

NEW ENGLAND BOBBIN & SHUTTLE CO.

Makers of PRECISION *Automatic Loom Bobbins*

NASHUA, NEW HAMPSHIRE

Representatives:

HENRY H. HERSEY, Norwood Place, Greenville, S. C.

ARTHUR W. HARRIS, 443 Stonewall St., S. W., P. O. Box 1982, Atlanta, Ga.

H. W. CURTIS, 735 W. Crescent Ave., Allendale, N. J.

THE CHARLOTTE SUPPLY CO., Charlotte, N. C.

Export Agents: VANDERBURGH & CO., INC., 25 Beaver Street, New York 4, N. Y.

HARRIS & UNDERHILL, 446 Statler Building, Boston, Mass.

TANNER TEXTILE CHEMICALS

VERSENE FE 3 Specific*
Most powerful iron complexing agent known in normal pH range.
VERSENE*
Most efficient general complexing agent. Softens water completely and permanently without precipitation.
• • THE Versenes*
STRONG CAUSTICS
VERSENE T*
Prevents and removes iron deposits from fabric treated with concentrated caustic.
VERSENE FE 3*
Prevents hard water deposits and iron stains.

VERSENES AND TEXTILES

The Chas. S. Tanner Company, as Southern Agents for the Bersworth Chemical Co., now offers you the Versenes in the South. By controlling metallic contamination, these most modern of chemicals give *cleaner* fibres, *softer* woolens and visibly *whiter* cottons. Among other things, they completely soften hardest water without precipitation.

OTHER TANNER CHEMICALS

Suedex Series.
These Resin Emulsions are semi permanent and easy to use in process finishing. Color yield is excellent and they give varying degrees of stiffness, fullness and finish on broadcloth and cottons of 80 squares.

Crystal Film.
These are Co-polymer type resins. They give beautiful transparent finishes. There are four types. Similar to Suedex in function but are used where even finer finishes are desired.

Ether Gum Binder.
For all types of clay or talc fillers for cotton goods. Non-yellowing properties.

Tantex A and Tantex B.
The *Durable* Type Water Repellent. Cottons treated the single bath Tantex way will retain their repellency for 3 washings or 3 dry cleanings. It will pay to investigate.

CST Gum No. 5.
A weighter type material. Used as a finish but imparts much weight to the fabric.

Tanamine Series of Softeners.
This is a complete line of cationic, anionic and non-ionic softeners.

*T.M. Bersworth Chemical Co.

CHAS. S. TANNER CO. *manufacturing chemists*

C.S.T.

1015 LIBERTY LIFE BLDG. CHARLOTTE, NORTH CAROLINA
Home Office: Providence, Rhode Island

where they are actually applied. Consequent freshness of the combination makes possible additional brilliance and color value.

Presently available "Spectrolenes" are: Red KB, Red RC, Scarlet 2G, Orange HD, and Blue B. Supplied in drums of 450 pounds.

Hilton-Davis Chemical Co., Cincinnati, Ohio.

For additional data, request item I-701, using business reply card on page 254.

Dye Winch Cover Fabric Made from "Orlon"

Announcement has been made of the development of a dye winch cover fabric woven of "Orlon" acrylic fiber. It is described as a successful combination of "Orlon" yarn and a special weave designed expressly for maximum traction to increase the "pull-power" of a revolving dye reel.

The cloth absorbs little or no color, the manufacturer reports, thus allowing dyers a quick change from shade to shade on the same dye box. Color change time and the use of labor and materials are said to be greatly reduced, as stripping of covers is eliminated.

Highly resistant to chemical degradation, impervious to mildew, and far better wearing than conventional covers, the new cloth offers the dyer substantial savings by eliminating frequent replacement, according to the manufacturer.

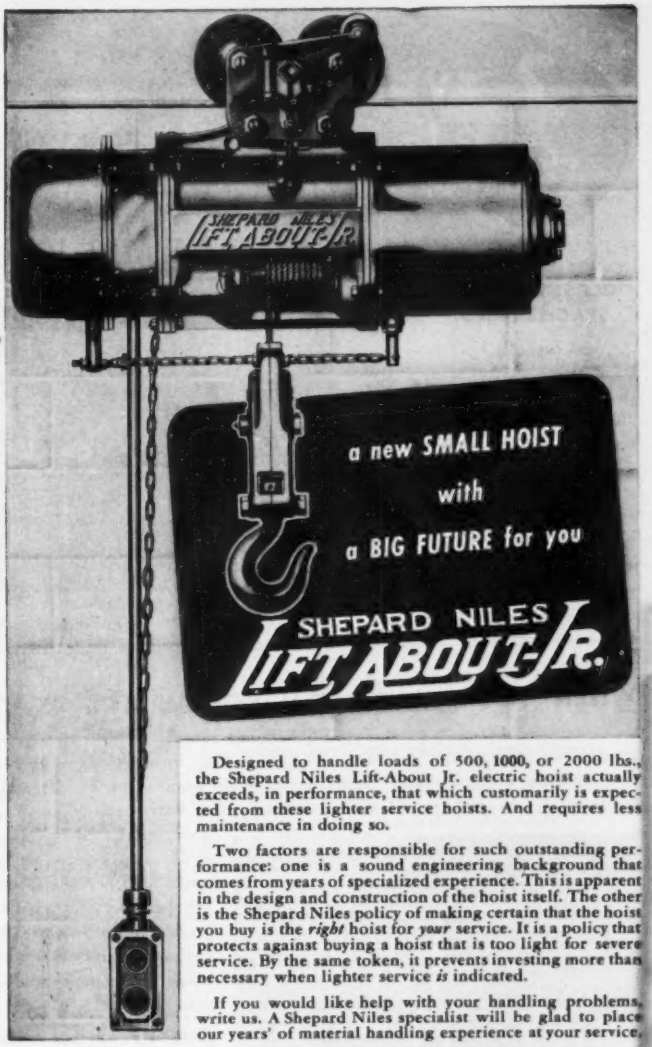
Martin Weiner Co., Industrial Fabric Division, 1441 Broadway, New York, N. Y.

For additional data, request item I-208, using business reply card on page 254.

New Olive Color for Defense Use

A new vat dye, known as Mayvat Olive T Paste is available. Especially designed for defense requirements, Mayvat Olive T Paste is said to be ideal for uniforms, duck, and webbing. The maker states that when used as the olive component of the Government "O.G. 107," "O.G. 108," and "O.D. 7" shades, the goods will meet U. S. Quartermaster specifications.

It is claimed that the new color is



Designed to handle loads of 500, 1000, or 2000 lbs., the Shepard Niles Lift-About Jr. electric hoist actually exceeds, in performance, that which customarily is expected from these lighter service hoists. And requires less maintenance in doing so.

Two factors are responsible for such outstanding performance: one is a sound engineering background that comes from years of specialized experience. This is apparent in the design and construction of the hoist itself. The other is the Shepard Niles policy of making certain that the hoist you buy is the *right* hoist for *your* service. It is a policy that protects against buying a hoist that is too light for severe service. By the same token, it prevents investing more than necessary when lighter service *is* indicated.

If you would like help with your handling problems, write us. A Shepard Niles specialist will be glad to place our years' of material handling experience at your service.

Shepard Niles
CRANE & HOIST CORPORATION
Makes and sells all three lifting tools for airborne shop loads
CRANES • Overhead
HOISTS • Cab Operated
HOISTS • Floor Operated

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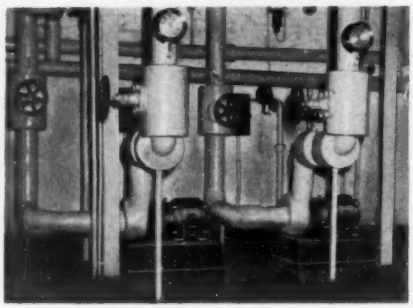
2 TYPES OF "Buffalo" PUMPS FOR EFFICIENCY ON YOUR CLEAR WATER JOBS!

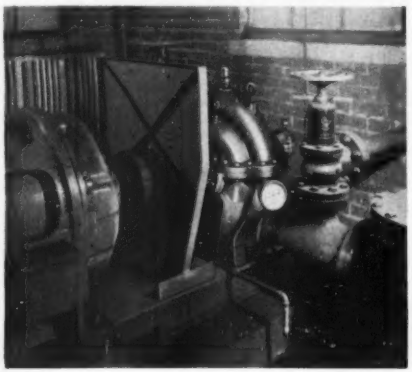
CLOSE-COUPLED! SPACE-SAVING!



. . . and ruggedly built to stand severe service, as in this installation of two "Buffalo" Close-Coupled Pumps handling chilled water. Close-Coupled construction, with impeller overhung on motor shaft, means permanent alignment. These compact single suction pumps with flanged openings can be installed vertically or horizontally. BULLETIN 975-B, completely describing "Buffalo" Close-Coupled Pumps, will be mailed to you on request.

WHEN YOU WANT HIGH VOLUME IT'S "S/L"

. . . "Buffalo" Double-Suction Type "SL" Pumps are of the finest obtainable construction, hydraulically balanced, and built in sizes to handle up to 10,000 gpm at heads up to 350 feet. Here are the pumps specified for the large air conditioning jobs, and for all continuous-service clear water applications. You can install "SL" Pumps with every expectation of peak efficiency, long, dependable service and inexpensive maintenance. It will pay you to look into these fine pumps — write for BULLETIN 955-N.



NOTE: "Buffalo" also manufactures a full line of fans, unit heaters, air washers and air conditioning units for any air handling application you may have. Complete information on request.

"Buffalo" PUMPS

BUFFALO PUMPS INC.

175 MORTIMER ST. BUFFALO, NEW YORK

Canada Pumps Ltd., Kitchener, Ont.

Branch Offices in All Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

NEW Equipment AND MATERIALS

especially fast to light, washing, and chlorine. It has been especially formulated to run smoothly on both continuous machines for piece goods and package machines for yarn, both in the pigment and reduced forms.

Otto B. May, Inc., Newark, N. J.

For additional data, request item I-210, using business reply card on page 254.

Tachometer Monitors Speeds of Several Machines

Speeds of many machines can now be measured from one convenient location with a tachometer which employs a simple machine selector knob. Reduced first costs and operating expenses are reported to be realized by elimination of duplicate tachometer indicators, and by saving steps and time of the operator. May be located up to 1000 feet from any of the machines. Wide selection of range markings available, all with large, easy-to-read graduations. No speed changing drives required. Connections between heads on machines and indicator are made by ordinary electric wiring.

Metron Instrument Co., 432 Lincoln St., Denver 9, Colo. (I-305).

20-25 hp Variable Speed Drives

Outstanding features claimed for a new series of Speed-Trol electric power drives in the range of 20 to 25 hp are: positive adjustment of pulleys, infinite speed variation, and accurate control of speed under varying loads. Units available in drip-proof, splash-proof, and totally enclosed fan-cooled models, and with built-in reduction gears for the lower speed ranges. All models can be supplied with manual control, electric or mechanical remote control.

Sterling Electric Motors, Inc., 5401 Anaheim-Telegraph Road, Los Angeles 22, Calif. (I-306).

"Dual Bed" Ion Exchanger for Treatment of Water

Simple, inexpensive water softening and removal of alkaline content are provided by the "Dual Bed" ion exchanger. According to the manufacturer, it eliminates the need for much elaborate equipment and for handling such chemicals as caustic

soda, sulfuric and hydrochloric acids during the regeneration process. Principle industrial application for the new unit is expected to be the conditioning of boiler feed water. An installation will consist basically of a single tank. Unit employs resins that are regenerated with plain salt.

The Permutit Co., 330 West 42nd St., New York, N. Y. (I-307).

Dehumidifier Unit Is Compact, Portable

For dehumidification of any closed area of tight construction up to about 8,000 cu ft, the Model DMS 4 dehumidifier now on the market is compact and portable. Installation is simple—just plug it in and let it go to work. Moisture collection pan may be emptied by hand once a day or

Portable dehumidifier (Abbeon).

hose or copper pipe may be connected for automatic discharge of condensate through a floor drain, window, or sewer. Simple "plug-in" control available to keep humidity at any desired percentage. Operates on principle of electric refrigerator, manufacturer states.

Abbeon Supply Co., 58-10 41st Drive, Woodside, N. Y. (H-211).

Blue Acetate Dye Fast to Light and Gas

Development of a new blue acetate dye that is said to have excellent light fastness and to require no inhibitor against gas fading has been announced.

It is expected that the dyestuff will find immediate use in men's suitings, dress goods, draperies, upholsteries, and other applications where high resistance to both light and gas fading is required.

The product is recommended for self shades as well as in combination with other acetate dyes of exceptional gas and light fastness. It is said to

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FINISHING
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Northol P. C.
for use with any make of machine, for setting twist and conditioning yarns

PRODUCTS of unsurpassed quality and performance, plus an experienced knowledge that knows how to recommend and demonstrate their use for practical results — is convincing more mills, day by day, that NORTH is the place to turn for service and supply when changing conditions require new and highly specialized products to meet the problem at hand. Our men are trained in practice; not in theory. Our products pass the same exacting test.

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The nation's largest manufacturer of dressings for all warp yarns

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be suitable for use on "Dacron" and dynel.

To obtain maximum fastness, optimum leveling, and exhaustion, the manufacturer recommends that dye bath temperatures of from 180 to 200 F be used. Fast Blue GLF Concentrated should be dyed with 1 per cent sodium meta phosphate on the weight of the fabric and with ¼ to ½ per cent sodium acid phosphate or tartrate in the dye bath. Anionic rather than non-ionic detergents and leveling agents are suggested.

Tennessee Eastman Co., 10 East 40th St., New York 16, N. Y.

For additional data, request item I-214, using business reply card on page 254.

Fiber Strapping for Packaging

"Fiberstrap" is a tough, new strapping which is reported to easily withstand a pull of 275 pounds, retain its original tensile strength and

Fiber strapping (Gerrard).

ductility under normal conditions, and provide uniform tension. Reinforcement and protection of the product bound by Fiberstrap results from its uniform tensioning and sealing with a standard Steelbinder strapping tool, the manufacturer points out. The strap has a soft, smooth surface that is non-abrasive and non-adhesive. Produced in standard ¾" width, .040" thick. Available in 25-lb coils, 1750 feet long.

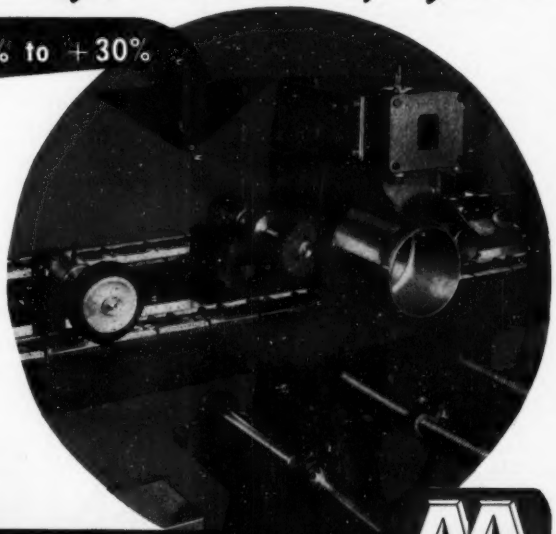
A. J. Gerrard & Co., 1950 North Hawthorne Ave., Melrose Park, Ill. (I-324).

Winding Temperature Equipment for Power Transformers

A new line of winding temperature equipment for power transformers consists of a hotspot indicator-relay, a hotspot indicator for local indication, and a hotspot indicator for remote indication. The hotspot indicator-relay (Type AWR) provides in one unit accurate indication of hotspot temperature as well as automatic starting of cooling fans, oil pumps, alarms, or any other circuit in the desired sequence and at a predetermined hotspot temperature. The indicator for local indication (Type AW) is similar to the Type AWR except that it has only one alarm contact. For remote indication, the Type AW-400 detector coil (10 ohms at 25C) is furnished. All equipments can be removed and tested without deenergizing transformer, lowering oil level, or interfering with trans-

*M&W Positive Overfeed and Selvage Guider

Uniform Overfeed from —5% to +30%



Regulates overfeeding positively and uniformly from —5% to +30% — for all fabrics, any finish, at speeds up to 100 yds. per minute. Simple — a turn of the wheel changes amount of overfeeding.

Pinning of each selvage on the tenter chain is adjustable, can be held within 1/16" tolerance.

Photo-electric cell engages selvage, *instantaneously* corrects sidewise variations — adjustable to react with equal efficiency to *all* shades and weights of fabric.

Guider arm brings cloth to meet the rails, not rails to meet the cloth — gains speed and accuracy by moving ounces of aluminum instead of hundreds of pounds of cast iron.

Manufactured exclusively in the U.S.A. under license from John Dalglish & Sons Limited of Thornliebank, Glasgow, Scotland.

*Attaches to practically all existing tenter frames (when equipped with M&W pin type tenter chains), easily transferred from one frame to another.

SEND FOR BULLETIN GIVING FULL DESCRIPTION

M & W

tormer operation. Installed in a standard liquid-tight well in the side of transformer tank just below minimum liquid level.

General Electric Co., Transformer and Allied Products Div., Schenectady 5, N. Y. (I-315).

Cement Floor Finish

"Monorock," a long-wearing cement floor finish of low-water ratio, includes a mixture of tough special aggregate which actually strengthens the concrete slab surface, the manufacturer claims. Cast on dry, it penetrates, interlocks, and becomes an integral part of the monolithic slab, assuring long, low-maintenance life for flooring.

General Floor Co., 110 East 42nd St., New York 17, N. Y. (I-317).

Machine Continuously Sets Nylon Fabric by Radiant Heat

A nylon setting machine which permanently sets nylon tricot fabric at a continuous rate of 16 yards or more per minute has been developed by the McCreary Machine Works, Inc., Cohoes, N. Y., with the assistance of the General Electric Company's Industrial Heating Division.

Designed to be installed on existing tenter frames, the machine consists of aluminum reflector units which house "Calrod" tubular heaters. Automatic temperature control is provided by "Reactrol," an electronic temperature control unit which allows automatic stepless heat adjustment through thermocouples located in the reflector frames. Although 16 yards per minute is the average machine speed, higher speeds can be accomplished by additional reflector units.

According to the manufacturer, operating costs are less than $1.00 per hour. Radiant heat setting requires only five steps and the width of the set fabric is constant, the machine builder claims. He also points out that dyeing can be done either before or after setting, and that the radiant heat method is continuous instead of batch. Since the material is set while still on the tenter frame, extreme accuracy in dimension is obtained.

In operation, the operator sets the temperature indicating controller to the predetermined setting temperature of the fabric, and pushes the button to start the tenter drive. The machine is electrically co-ordinated with the tenter drive to make the op-

LEADING COTTON MILL FINDS

GAULIN-HOMOGENIZED SIZE

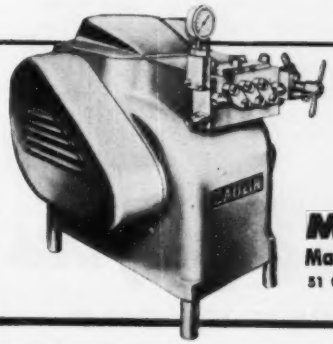
USES

...17% Less Starch
10% Less Softeners
20% Lower Cooking Temperatures
87% Less Cooking Time
67% Less Cycle Time

"In addition, we have 50% less shedding at the loom," say the management of a famous Connecticut cotton mill, "plus 1 to 2% increase in loom efficiency, since we converted to Gaulin-Homogenized size."

Photomicrograph of 40's yarn coated with homogenized size. Note the exceptional degree of fibre lay.

Photomicrograph of 40's yarn with boiled size. Note the irregular degree of fibre lay.



Write for full facts on GAULIN guaranteed performance. Complete engineering service is yours without obligation.

Gaulin

Manton Gaulin Manufacturing Company, Inc.
51 GARDEN STREET, EVERETT 49, MASS.

Logan Inclined Apron Conveyor "makes two floors as one." It has push button control, is reversible, and handles both incoming and outgoing material in a Georgia mill. Used in combination with Logan Roller Conveyor in this installation.
RAYON

the best place to CUT COSTS?

"The area of greatest waste," according to authorities, "is in materials handling. About one out of three dollars of production cost goes for handling and moving materials. Usually the cost and personnel used for material handling can be cut in half by mechanization and scientific planning."

The above quotation constitutes a powerful recommendation for Logan Conveyors. Perhaps your plant, too, can cut handling costs with Logan Conveyors to (a) keep textile equipment operating at capacity with least manual effort (b) deliver work in process through spinning and weaving (c) facilitate handling of incoming raw materials, and outgoing finished cloth.

Logan offers two generations of conveyor experience. Write for literature or for engineer to call.

75th ANNIVERSARY 1876-1951

Logan Conveyors

LOGAN CO., 206 CABEL ST., LOUISVILLE, KY.

NEW Equipment AND MATERIALS

eration automatic. To prevent scorching, the reflector frames are designed to automatically raise if flow of fabric through the tenter frame stops.

Sufficient temperature range is provided to treat other synthetic fabrics such as "Dacron" and "Orlon."

McCreary Machine Works, Inc., Cohoes, N. Y.

For additional data, request item I-501, using business reply card on page 254.

Single-Phase Capacitor Motors with Resilient-Base Construction

For use where freedom from vibration and extra-quiet operation are required, the "Tri-Clad" line of single-phase, capacitor, induction motors is being offered with a resilient-base construction. Dynamically balanced for smooth operation, the motors (rated from ½ to 5 hp) offer triple protection against physical damage, electrical breakdown, and operating wear and tear. Of cast-iron construction, they feature totally enclosed, built-in transfer switches to keep foreign matter from the contacts, and a centrifugal mechanism designed for long life.

General Electric Co., Small and Medium Motor Divisions, Schnectady 5, N. Y. (I-314).

Twin-Shell Dry Blender for Laboratory Use

Twin-shell blenders that, according to the manufacturer, give the same performance as the large production models manufactured by this concern, are now available in four-quart and eight-quart capacities for laboratory use. Transparent plastic is utilized in the manufacture of the shells. Consequently, they possess a highly polished surface and are considerably lighter in weight than metal shells. Also, they are immune from corrosion and attack from all but the most active chemical compounds. Exhaustive abrasive tests have indicated negligible wear, it is claimed. Clear visibility at all sections allows checking of finished blend.

The Patterson-Kelly Co., Inc., 120 Lackawanna Ave., East Stroudsburg, Pa. (I-309).

20-kw radio-frequency generator for dielectric heating (Westinghouse).

Radio-Frequency Generators for Dielectric Heating

Two radio-frequency generators for dielectrically heating a wide range of non-metallic materials in the textile and other industries have been placed on the market. One is a 5-kw unit while the other is rated at 20-kw. They are both readily adaptable to batch or continuous production methods, delivering rated power at a 100% duty cycle, measured by approved NEMA standards. The 5-kw machine can be supplied in either of two styles: (1) with a 6.8/13.6 megacycle dual-frequency oscillator for low and medium power density requirements such as large area panels to be heated for glueing, or (2) with a 27.1-megacycle oscillator for high power density loads such as plastic preforms. Equipment operating controls are held to a minimum, with all control adjustments being made from front panel. This, plus a full complement of protective devices, puts the operation of this equipment on a semi-skilled basis, the manufacturer claims.

Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. (I-502).

Manual of Standards for Multiple V-Belt Drives

The Rubber Manufacturers Association, Inc., 444 Madison Ave., New York 22, N. Y., and the Multiple V-Belt Drive & Mechanical Power Transmission Association, 7 West Madison St., Chicago 2, Ill., have announced the issuance of a 16-page manual of recommended "Engineering Standards for Multiple V-Belt Drives" as developed and approved by the technical committee of both

Standardize on Sleeve Bearings AND SAVE MONEY!

■ The trend in manufacturing circles today is toward STANDARDIZATION—away from specials. This is particularly true of Bearings. The machine designer has a golden opportunity to combine economy with efficiency by utilizing Johnson G. P. Standard Stock Bearings . . . .

From our list of over 850 sizes, the designer can secure at least 90% of his requirements from stock without delay. Every bearing is precision finished to standard tolerances, ready for immediate installation. Large production runs provide a low unit cost and every bearing is cast from the highest quality bronze alloy available . . . .

Our new catalogue lists and describes the complete service available on Johnson G. P. (general purpose) Bearings. Write for your copy.

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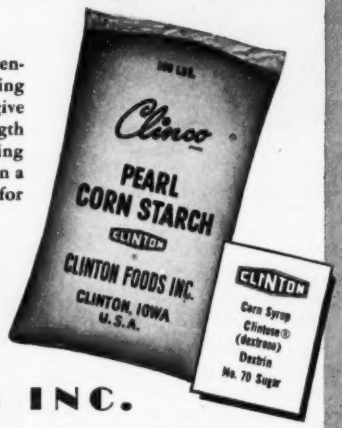
Specify JOHNSON G P GENERAL PURPOSE BEARINGS

JOHNSON BRONZE SLEEVE BEARING HEADQUARTERS

Branch Offices

You'll find CLINTON Quality Starches tops for every textile purpose!

CLINTON Textile Starches are scientifically manufactured with unvarying uniformity assured. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. For years Clinton has been a leader in the production of starches for all textile purposes.



CLINTON

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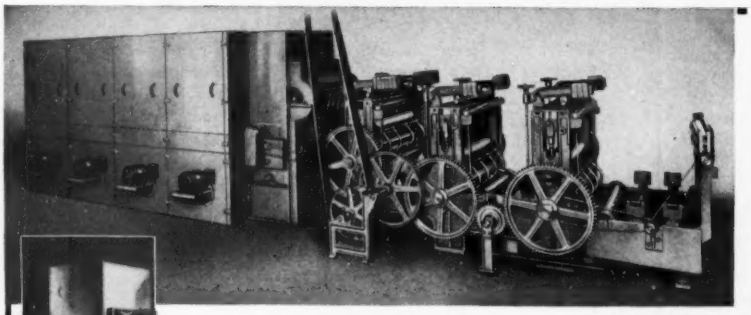
CLINTON, IOWA

CONTACT: R. C. Rau, S.E. Mgr. Clinton Sales Co., 161 Spring St. Bldg., Atlanta, Ga. Tel.: Walnut 8998
Boyce L. Estes, 343 Mimosa Dr., Decatur, Ga.
Grady Gilbert, Box 342, Concord, N. C. Frank Rogers, 900 Woodside Bldg., Greenville, S. C.



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Flexible • Modern • Efficient

BACKWASHER and BACKWASH DRYER

BACKWASHER—Available with one to five bowls. 44" wide bowls give increased liquor capacity. SARGENT'S rearrangement of top squeeze roll levers allows easy accessibility for operator; permits more than double usual number of ends to run through machine. Convenient working space provided by development of pneumatic loading for squeeze rolls, eliminates weights, rods, springs and adjusting wheels.

BACKWASH DRYER—Available with 29" or 44" aprons. Wire cloth or perforated plate aprons assure softer feel, better color, greater fibre strength. Warm air circulated by motor driven pressure-type fans passes alternately through extended surface heating coils and fibres. From 14 to 60 ends dried at one time. Available in production capacity of 100 to 600 pounds per hour, with 3, 4, 5 or 7 circulating fans.

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

Write for Complete Details

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HUGH WILLIAMS & CO. — 47 Colborne St. • Toronto 1, Canada

groups. It indicates the proper sheaves and belts to be used for the attainment of optimum efficiency and economy of the complete drive in relation to the particular duty required. Price, $1.00 for two copies; address either of the associations.

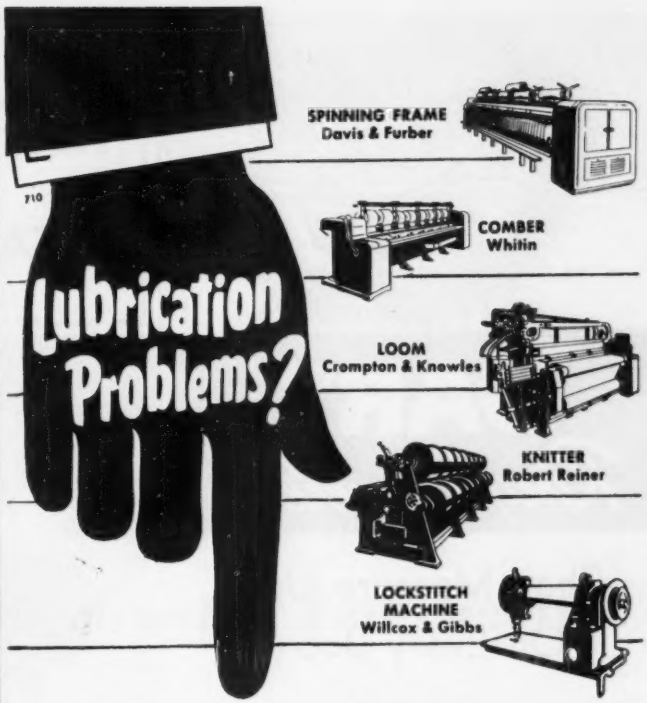
Book for Foremen Gives Timestudy Fundamentals

A revised and enlarged edition of *Timestudy Fundamentals for Foremen* by Phil Carroll includes recent timestudy procedures and applications. It tells what to do in starting a time study, describes how the time elements involved can be recorded, and emphasizes the necessity for comparing several such studies before setting standards of performance. The compilation of results of timestudies and the proper charting of them so as to arrive at standards are thoroughly explained with appropriate diagrams and instruction. Descriptions of four basic types of wage incentive plans developed as a result of timestudies are also included. Publisher: McGraw Hill Book Co., 327 West 41st St., New York 18, N. Y.; price, $3.00.

2000-Pound Capacity Fork Truck

For all applications where loads are 2000 pounds and 48 inches long, the new Type FS center-control fork truck is recommended. Benefits: dependable performance, convenience, maneuverability and utility with low first cost, low operating cost, and minimum maintenance. Operator sits on a formed padded seat with back rest in an off-center position from which ends of forks are visible. Automotive type steering. Direction of travel selected by lever, and five speeds in either forward or reverse are controlled by an accelerator pedal. Another pedal controls mechanical brake of air-cooled drum type. Cushioned dynamic braking is obtained by reversing travel controller; therefore, it is impossible to plug truck. It also saves wear on service brake and is a safety feature in descending ramps.

Baker Industrial Truck Division, The Baker-Rauling Co., 1250 West 80th St., Cleveland 2, Ohio (I-507).



not on these machines!

...they're all BIJUR equipped

Each maker of these machines had your best interest in mind when he built-in a Bijur lubricating system. Human carelessness and forgetfulness are eliminated by machines having built-in Bijur lubricating systems. These machines will never be shut down because they lack continous, proper lubrication. Make certain the machine you buy is furnished with a Bijur lubricating system.

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LUBRICATING CORPORATION

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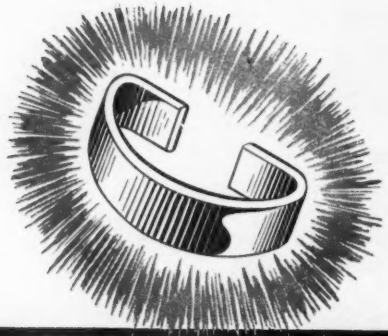

DARY
Ring Travelers

They Measure Up On Every Job

There's a *right* Dary Ring Traveler to do any spinning or twisting job—for any type of yarn.

Call in your friendly Dary representative. He'll show you the *right* traveler to help your production meet those tough specifications—get high quality in great quantity, at any operating speed.

Next time you order,
Specify DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

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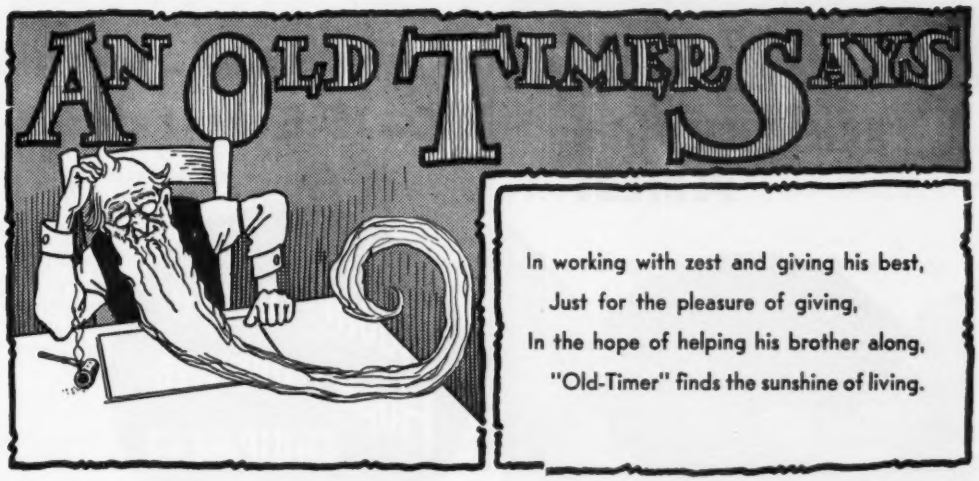
YEARS EXPERIENCE IN TANK DESIGN

FOR almost a century Cole elevated tanks have provided a dependable water supply for mills and communities. Cole quality is assured by careful, experienced designing and watchful supervision from blueprints to finished tank. Send us your inquiries for tanks from 5,000 to 2,000,000 gallons — stating capacity, height to bottom, and location. *Write for latest Cole catalog — "Tank Talk."*

R. D. COLE MFG. CO.
NEWNAN, GA. *Established 1854*


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

System for Buying Lubricants

CONTINUING his advice to "Jim," a progressive mill superintendent who requested suggestions for carrying out his recently assigned responsibility for purchasing all supplies at his mill, Old-Timer tells how he purchased oils and greases.

AND TO show you, Jim, what a relief it is to the man doing the buying to have all this information: We were buying lubricating oils and greases from several firms. We asked the sales managers of three prominent firms to call on us. When we invited all of them into the office at the same time, you should have seen the expressions on their faces. They wondered what in heck was coming. Well, here it is. And it developed a few years later that they all were very much pleased. We will call them A, B, and C.

"Gentlemen, we are doing business with each of you and we are pleased with your product and your service. However, we believe we have a plan which will save your firm some money and save both ourselves and you considerable time and work.

"What we propose to do is to give each one of you all of our business for one year at a time. That is, one of you will take next year (it was the first week in December) and furnish us all of our lubricants. You may go to our supply clerk and get a list of everything we are now using. You may ship us the quantities you wish of each lubricant January 1. We will not ask you the price of anything you ship us. (Jim, you should have seen their eyes open wide.)

"We will explain that to you by saying that at the end of the year we will submit a report to all three of you, showing exactly what our lubricating cost has been for that year, per loom hour. It will show you exactly what lubricating our spindles has cost per spindle hour, what it has cost to lubricate our steam turbines per operating hour, and the same report on the cost of all other machinery.

"This volume of business will justify your having your lubricating engineers come here from your factory and make a study of our lubricating problems. If, for example, you find we are using a loom oil which we are paying 25¢ per gallon for, and your engineers believe we should be using an oil you will charge us 35¢ per gallon for, that is perfectly all right with us—ship it and we will pay your invoices without any question. At the end of the year both of us will have a report before us showing the cost per loom hour, or spindle hour, etc. And that report will tell us if the more expensive oil is best for our use.

"You can readily see why we are willing to let the quality and price of what you supply us with be entirely up to you. We know that we will have this same report from your competitor at the end of next year to compare with your report. We do trust that neither

Every One –

SCIENTIFICALLY PERFECT

CARTER TRAVELERS

... and in every box every traveler is exactly alike

This uniformity and quality of CARTER TRAVELERS is the result of years of experience, modern, precision machinery and exacting scientific control. The weight, temper and shape of every traveler is checked and rechecked by two trained technicians working in a modern metallurgical laboratory.

Scientifically, CARTER TRAVELERS are designed to increase yarn production at lower costs.

CARTER TRAVELER COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA N. C.

REPRESENTATIVES

C. E. HERRICK, 44 FRANKLIN STREET, PROVIDENCE, RHODE ISLAND
R. D. HUGHES SALES CO., 2201 CEDAR SPRINGS, DALLAS 1, TEXAS
HUGH WILLIAMS & CO., 47 COLBORNE ST., TORONTO 1, CANADA

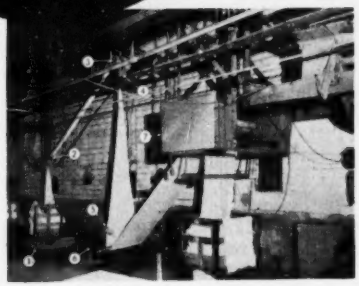
You Get

AUTOMATIC — NON-STOP — TROUBLE-FREE

O-P-E-N-I-N-G

WITH

Mount Hope CLOTH OPENING EQUIPMENT



Increases Production Reduces Cost!

No stops to remove twist — no hand labor — opens cloth regardless of amount of twist — safe — quiet — no rapidly revolving parts — minimum maintenance.

Have a Mount Hope Engineer analyze your cloth opening problems.

ANOTHER Mount Hope CLOTH HANDLING DEVICE

Ask for Bulletin SG-COI

MOUNT HOPE MACHINERY COMPANY
15 FIFTH STREET • TAUNTON • MASSACHUSETTS

you, Mr. A, nor you, Mr. B, nor you, Mr. C, will be so high in your cost per machine hour, of lubricating our machinery that we will be compelled to drop you from the list.

"Oh, yes, the only provision in allowing you to ship us in quantity is that at the end of the year you are to take back any unreasonable quantity or unbroken packages we have on hand. This you realize is to give the firm taking over for the new year a fair deal.

"Remember, at the beginning of this conversation we said we thought our plan would save your firm money and your salesmen some time. Well, under our present arrangement each of you make a trip about once per month to call on us. Now there is no cause for you to call on us because you know you have all of our lubricating business for a year, and therefore there is no need for the other two of you to call because you know we can't give you an order."

We only wish space would allow us to show you those reports for five or six years. The lubricating firms were as much surprised as we were to see how the cost of lubrication gradually went down each year, and as you know, with several rather large plants, that ran up in dollars to a very nice figure.

But Jim, what we want to stress particularly with you is: can you think of a more simple system? It will save a lot of your time, it will save your firm many dollars, and you will receive the very best lubricating service it is possible to get. Why don't more textile plants take advantage of this system?

(*Continued next issue*)

World's Largest Worsted Spinning Plant

Four departures from conventional British textile mill design were taken recently in the conception and building of a £7,000,000 worsted spinning plant by the firm of Patons and Baldwins at Darlington, County Durham, England:

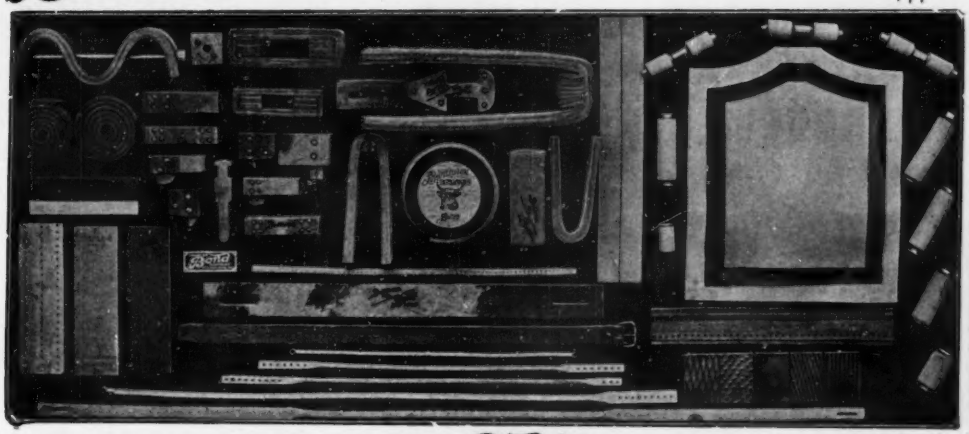
(1) Six old mills were scrapped and their work concentrated into the one new plant; (2) the 34 acres of new buildings were all kept to single-story; (3) buildings were designed on the basis of prearranged machinery layouts; and (4) the plant was located outside the traditional spinning area, so that inexperienced personnel had to be relied upon to learn the new trade fast.

Within a year, this worsted spinning plant, which is said to be the largest in the world, is expected to reach its maximum production of 15,000,000 lb of wool knitting yarn a year.

The single, ground floor adds to the efficiency of the 13 con-

Bondaron
REG. U. S. PAT. OFF.

TEXTILE LEATHERS



PERFORMANCE—*Not Cost*—Makes Bondaron Leathers ECONOMICAL

"The Leather with the hair on"

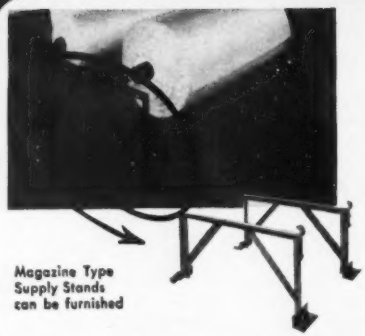
Buying by comparison is a safe method, but too often the comparison is based on first cost rather than by *results*. Economic value can only be ascertained by actual use, when the record of performance provides enlightening comparisons.

Men, methods and machines differ. That is why Charles Bond Company is always willing to submit BONDARON Textile Leathers to intensive, practical demonstration under any mill conditions where textile leathers are used.

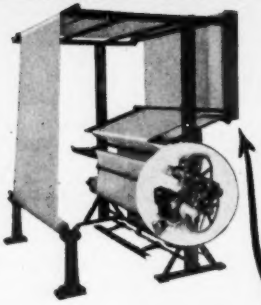
Test these leathers under your own working conditions. We will ship an initial order and guarantee satisfaction.

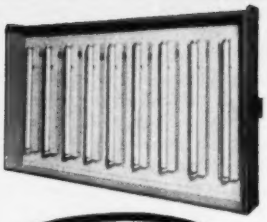
CHARLES Bond COMPANY
617-623 ARCH STREET PHILADELPHIA, PA.
Manufacturers of Textile Leathers for Nearly Half a Century

"Standard" CLOTH INSPECTING, MEASURING AND WINDING MACHINES



Magazine Type Supply Stands can be furnished





Standard Fluorescent Lighting Fixture connected to our Cloth Inspecting, Measuring and Winding Machine.

The New Standard Cloth Inspecting, Measuring and Winding Machines are equipped with V-Belt Variable Speed Drive, manually controlled, which provides variation in yardage speeds from 11 yards per minute to 57 yards per minute. Inspection board is adjustable to any height and angle desired. All moving parts have replaceable bearings.

Our Fluorescent Lighting Fixture provides 24-hour daylight. Increases efficiency, eliminates eye strain and steps up production. There is an even distribution of light, without glare. 9 Fluorescent tubes are controlled by 4 toggle switches, perfectly diffused by indestructible, white opal Plexiglas. You can have as little or as much light as the particular fabric requires.

STANDARD MILL SUPPLY

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NEW YORK, N. Y. 6708 Empire State Bldg.

CHARLOTTE, N. C. 2319 Hutchison Ave.

Keep Watch of GESSNER IMPROVEMENTS

and let Gessner keep watch of your finishing requirements

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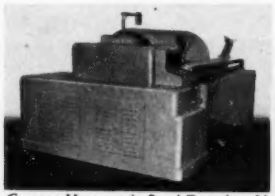
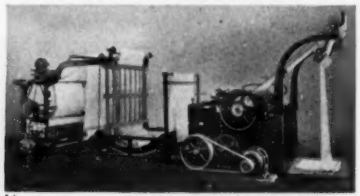
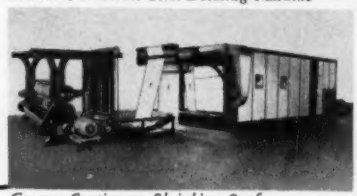
Napping · Pressing
Extracting · Gigging
Spot Proofing · Sponging
Squeezing · Brushing



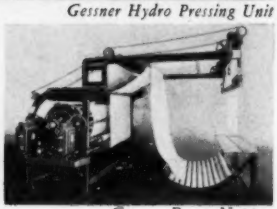
Gessner Versamatic Semi-Decating Machine



Gessner Hydro Pressing Unit



Gessner Continuous Shrinking Outfit



Gessner Rayon Napper

However exact your requirements of cloth finishing, Gessner units maintain a standard of performance to meet those requirements. The quality and quantity of decating now being obtained on the new Gessner hydraulically powered "Versamatic" is typical. Think in terms of Gessner for your answer to your most immediate or long range finishing problem.

DAVID GESSNER CO.

WORCESTER, MASSACHUSETTS

Improved Cloth Finishing Machinery

CANADIAN REPRESENTATIVE: W. J. WESTAWAY, MONTREAL, QUEBEC; HAMILTON, ONT.

veyor circuits running through all the processing departments; these do not impede cross traffic because the motive parts of the small trucks are below floor level.

Wool storage transit bins, previously man-handled, are eliminated because the wool can be kept in the conveyor's 2,000 trucks until the processing machines are ready to receive them. The trucks travel at 30 feet per minute over 4,351 yards of under-floor conveyor belt and disconnect themselves from the moving belt if they come up against any object.

Labor-saving was the foremost consideration of the designers. For instance, the sorters throw their main sort on to a belt conveyor which delivers the wool through an automatic feed to a blower fan; this blows the sorted wool to an automatic cyclone blender in the roof of a blending bin, which gradually fills up. From the blending bins, the wool is fed into suction channels, which pass it to the wool-washing machines.

The largest "shed" in the new factory covers 13½ acres; the average length of the sheds is one-third of a mile.

Loom Motor Power Supplies

(*Continued from page* 159)

directly underneath the loom motor on a pedestal-type casting set on the floor (see illustration). The power supply leads come in underneath the pedestal and then go into the bottom of the switch. The location beneath the motor is convenient; however large amounts of lint fall from the loom, and dirt from sweepings, oil drip, and physical abuse add to the problem; therefore standard enclosures are not considered adequate.

A semi-dust-tight enclosure now is required, according to Factory Insurance booklet "Recommended Good Practice for Selecting and Installing Electrical Equipment in Textile Mills." Dated May, 1950, the publication explains that NEMA I-A enclosures are recommended instead of NEMA I. According to a survey made by the Factory Mutual Fire Insurance Companies for the period from 1935 to 1945, 38.8 per cent of all electrical fires in weave rooms were caused by loom motor starters.

Another arrangement that has been tried is to mount the switch directly on the motor. The trouble has been, however, that severe vibration of the motor results in a very short life for standard type switches presently available. There are a few motor-mounted switch installations in operation, but they are not considered satisfactory because of the excessive switch trouble.

A newer method is to mount an assembly of 8 or 10 loom switches, operated as a group installation, in one lint-proof cabinet. The assembly is mounted on a pole or wall close to the looms and out of

R & M MOYNO® PROGRESSING-CAVITY PUMP

here's

THE PUMP FOR SIZING!

Moynos have changed the "textile mill" pumping picture. They deliver positive pressure in uniform flow—resist chemicals, abrasives—keep going in the tough spots where *other* pumps have failed.

MOYNOS ARE MONEY-SAVERS

On sizing, caustic solutions, tinting liquids, viscose and cellulose acetate—on *every* textile mill use—these amazing pumps without pistons or valves save time, cut costs, stand up. If *you* are having pumping troubles, call in your Moyno Man.

See How Simple

A helical rotor rolls around within a double-helical stator. Voids and seal lines thus are formed for moving the material. Moynos self-prime, work with high reserve pressure, won't cavitate or vapor-lock.

FACTS FREE

Made in many sizes and in single- or multi-stage units for direct, belt, or variable-speed drive. Get the whole Moyno story: specifications, dimensions, capacities, etc. Ask for free Bulletin No. T-30-I.

ROBBINS & MYERS · INC.

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SPRINGFIELD 99, OHIO · BRANTFORD, ONTARIO

MOTORS · HOISTS · CRANES · FANS · FOUNDED 1878

HAYSSEN-WRAPPED

IT PAYS TO WRAP THE HAYSSEN WAY

Hayssen
ELECTRIC EYE
WRAPPING MACHINES

Descriptive literature on request

The Hayssen wraps a great variety of products . . . is fully automatic . . . has a long operating life because it is mechanically simple . . . and functions quietly at a high production rate. Low in initial cost, it keeps the unit-cost of wrapping at a low level. Printed wraps are registered by Hayssen Electric Eye. Write or phone today.

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CORPORATION
CLYCLONIC COMBUSTION

No high powered advertising statements are necessary. Write for PROOF why Cyclotherm Steam Generators will give you:

- Lower installation costs
- Up to 50% savings on maintenance costs
- Quicker heat
- Cleaner plants
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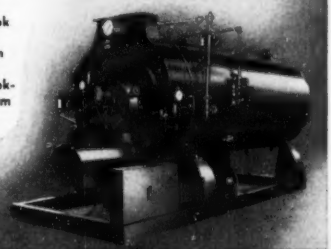
Boilers are designed for oil or gas operation from 18 thru 500 h.p., 15 to 200 lbs. operating pressure.

Your phone book will give you your Cyclotherm man's address. Or write for booklet on Cyclotherm Combustion to Dept. K.



CYCLOTHERM CORP., OSWEGO, NEW YORK

the dirty location under the loom. Such an arrangement requires some type of disconnect at the loom motor so that the motor can be easily disconnected in case of trouble. Polarized four-conductor plugs and receptacles are used for the disconnect. The combination requires additional wiring in that separate leads run from the switch group to each motor.

Motor Leads. The recent change in loom motor leads from four separate flexible conductors to a four-conductor Neoprene covered cable has been an important improvement. When four separate conductors were used it was necessary to enclose them in Greenfield flexible conduit. This would occasionally cause shorts and fires because the ends of the conduit cut the leads. Four-conductor Neoprene-covered cable does not require any enclosing conduit.

A squeeze type connector is used at the entrance of the cable into the motor and switch. Four-conductor cable is oil-proof and, with the connectors, excludes oil, moisture or lint from getting into either the motor or switch connections. The connector holds the cable so tightly that it provides strain relief to prevent the leads from being pulled out of the winding, should they be used for dragging the motor. Where knock-out devices are used, the four-conductor cable is used to connect the switch and transformer.

Four-conductor cable is used to provide a ground lead in addition to three power leads. The motor end of the lead is attached to the motor iron. It is very important that the switch end of the lead be solidly grounded, preferably directly to the conduit. Many looms are mounted on wood floors which serve as insulators, and the grounding lead may be the only means by which the loom can be grounded to prevent the loom from becoming energized at line voltage should a fault occur within the motor.

Modern practice and new equipment can provide dependable and safe electrical installations for weave rooms. In changing an existing installation, or in building a new weave room, effort in proper planning will be well repaid by more dependable operation.

News in Brief

(*Continued from page* 111)

pected to become a fast moving line, but a few pairs are being made for display purposes. Real silver is actually plated on the stockings after they are knitted.

Research on Cotton Utilization. Three new research projects to improve the utilization of cotton are being initiated by the U. S. Department of Agriculture under Research and Marketing Act contracts, which will be supervised by the Southern Regional Research Laboratory in New Orleans. The Institute of Textile Technology, Charlottesville, Va., will develop dry cleaning methods. Clemson Agricultural College, Clemson, S. C., will investigate the feasibility of applying electrostatic forces to obtain more effective separation of trash from the lint. North Carolina State College, Raleigh, N. C., is to continue further studies of neps.

Tar in Cotton Still Problem. Bleacheries and mills are still having their troubles with tar on cotton goods. Opinions among mill men are that in addition to bale ties coated with tar, the foreign material may be thrown onto the bales during transit along highways by truck. A test for locating tar prior to processing in the grey goods mill is now available. One commercial bleachery man advises that he is now "100% on tar goods;" every mill which sends fabric to be bleached or finished has tar in the cloth.

Antitrust Suit Charges Wool Finishers. Attorney General J. Howard McGrath has announced that a civil complaint has been filed charging the Textile Refinishers Association, Inc., its 31 member firms, two labor unions, and the Textile Finishers Clearing House, Inc., with a conspiracy to monopolize and to restrain trade

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"Of all the industrial engineers with whom we have had contact, we entertain a higher regard for this organization than any other, and that is based on results entirely."

A LARGE MIDWESTERN MANUFACTURER OF HOSIERY, NIGHTGOWNS, PAJAMAS, ETC.

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

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250 PARK AVENUE, NEW YORK 17, N. Y.
GRANT BUILDING, PITTSBURGH, PA.
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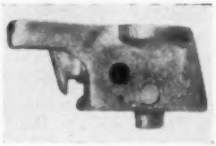
TENSION...

that stays where you want it

with the Blanchard Quarter Turn Locked Adjusting Screw on S6 Loom Shuttle Tension Eyes

To keep exact filling tension always constant, specify this important Watson-Williams Shuttle Improvement on your S6 Loom Shuttle Tension Eyes. With the Blanchard Quarter Turn Locked Adjusting Screw, your own center or rear tension setting remains unaffected by loom vibration or shuttle handling.

Four evenly spaced grooves are channeled into the sides of each tension screw hole in the shuttle eye.



Ingenious spring wire bent down into two grooves of the screw, keeps the screw in place.

Spring wire catches lightly but effectively, every quarter turn of screw, wherever you set it, in the sides of the screw hole.

PLEASE anticipate your shuttle needs. Order ahead of time so that we may anticipate your exact requirements.

WATSON-WILLIAMS MFG. CO.
MILLBURY, MASSACHUSETTS

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Arthur J. Bahan, 810 Woodside Bldg., Greenville, S. C.
John Wyatt, Jefferson Bldg., Greensboro, N. C.

NORTHERN REPRESENTATIVE:
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

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"The Extra Grip of Tannate® Keeps Our Looms Running Full-Speed"

*

This statement made by the superintendent of one of the largest cotton mills in the country illustrates another of the special advantages you get from the special tanning of Tannate. If you want more production from your present machines . . . Tannate may be the answer. Let our engineering service help you. Write for details.

RHOADS Tannate® LEATHER BELTING

PRODUCERS OF FINE LEATHER FOR 249 YEARS

J. E. RHOADS & SONS

35 NORTH SIXTH ST., PHILA. 6, PA. and ATLANTA

in the business of examining and sponging or shrinking woolen cloth for wearing apparel manufacturers in New York City, in violation of the antitrust laws.

No Affidavit—No Union Shop. The National Labor Relations Board has unanimously declared illegal union shop clauses in several thousand AFL and CIO labor contracts. Also declared illegal are union shop elections which were held under such contracts, during the periods that the national officers of such unions had not filed affidavits, as required by the Taft-Hartley law, disclaiming any Communist affiliations.

Exposition of Chemical Industries. The 23rd Exposition of Chemical Industries is to be held in New York City, November 26 to December 1. Arrangements have been made to utilize all the available space on the four exposition floors of Grand Central Palace.

Manpower Pinch Brings Engineering Changes. The demand for scientific apparatus and process instruments for basic defense industries is running 250 to 300 per cent above pre-Korean levels, according to Minneapolis-Honeywell Regulator Co. One difficulty is to obtain sufficient critical materials to handle expanding production of process instruments used to speed production in defense industries, and, according to the company, orders for automatic processes reflect the scarcity of skilled help.

White "Orlon" Shirting on the Way. Progress has been made in the development of an all-white Orlon fabric for use in shirts. According to reports, the Orlon fabric appears similar to high-count cotton shirting fabrics. Selling price for 45-inch Orlon goods is expected to be approximately $1.55 to $1.65.

New Type Sheep in Russia. A new type of fine-wooled sheep has been bred by Kazakhistan scientists. Adapted to living in the severe conditions of the Aral Kum desert, the sheep yield a high quality of fine, long-stapled wool.

Acrilan is Trade Name of Acrylic Fiber Manufactured by Chemstrand

Chemstrand Corp. has announced registration of the trade name Acrilan for its major new acrylic synthetic fiber, to be produced at an annual rate of 30,000,000 pounds.

Full production of Acrilan will begin next year at a plant now being built at Decatur, Ala. Large scale pilot-plant production is now under way at Marcus Hook, Pa.

Acrilan's principal characteristics are warmth-without-weight, softness-to-the-touch, moth resistance, quick drying, shrink resistance, crease resistance, crease retention, and its resistance to deterioration outdoors.

Indicated uses are in apparel and furnishings such as suitings (Acrilan blends with wool or rayon), blankets, mouton, socks, gloves, sweaters; outdoor applications such as awnings; industrial uses such as acid-resistant work clothes.

Chemstrand Corp. was formed in 1949 on a 50-50 ownership basis by American Viscose Corp. of Philadelphia and Monsanto Chemical Co. of St. Louis.

Fiber Fineness Affects Strength of Cotton Yarns

(*Continued from page* 163)

spect to fineness, will result in filling yarns of more uniform strength and a fabric of better quality.

As to roving twist, it is said that the coarse-fibered cotton requires more roving twist than fine-fibered cotton and that fineness, in addition to length, should be considered in determining roving twist.

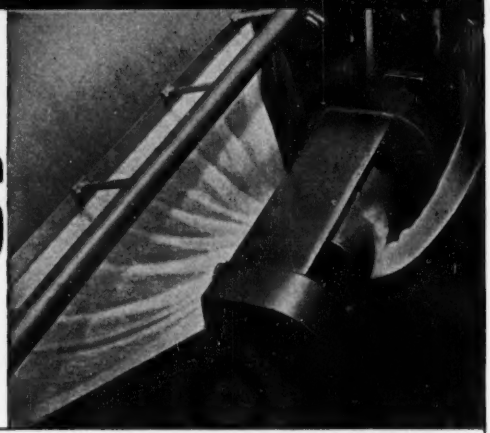
Speed Up
Your Old Equipment
with New Load-Floating
Colson Casters
Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.
Model 3-427-16 with thread guards, designed especially for the Textile Industry.
Write Today For Free 68 Page Catalog
THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

10.000.000 CARDING POINTS NEED PERFECT GRINDING ROLLS

CONSULT THE CARD-GRINDING SPECIALISTS

DRONSFIELD'S

TRAVERSE WHEEL GRINDER Nº 120



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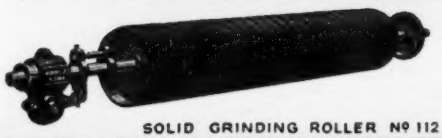


SOLID GRINDING ROLLER Nº 112

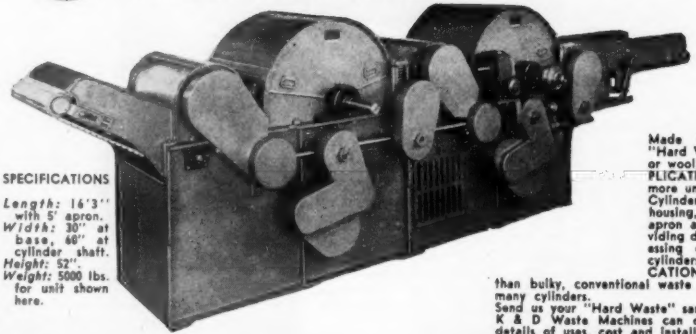
DRONSFIELD BROTHERS LTD · OLDHAM · ENGLAND

You can now whip your "HARD WASTE" problem with the new

BEFORE AFTER

K&D TANDEM APPLICATION WASTE MACHINE

LEFT above is hard twist unsized cotton warp waste. RIGHT—the processed waste after one time through K & D Tandem Unit. Many mills, pleased with such results from first installation, have ordered additional units.



SPECIFICATIONS

Length: 16'3" with 5' apron.
Width: 30" at base, 66" at cylinder shaft.
Height: 52".
Weight: 5000 lbs. for unit shown here.

Made for processing unsized "Hard Waste" in cotton, rayon, or wool, this new TANDEM APPLICATION combines two or more units of the K & D Single Cylinder Waste Machine in one housing, with only one feed apron and one exit apron. Providing double-action waste processing on each of the unit's cylinders, the TANDEM APPLICATION is far more efficient than bulky, conventional waste machines with twice as many cylinders.

Send us your "Hard Waste" samples for *proof* of what K & D Waste Machines can do for you. Ask us for details of uses, cost and installation. WIRE, WRITE, or TELEPHONE TODAY, to

Kirkman & Dixon MACHINE SHOP and FOUNDRY

GREENWOOD, SOUTH CAROLINA

K & D SINGLE CYLINDER WASTE MACHINES • F-5 HOPPER FEEDERS, ANY WIDTH • SARGENT COMBS

SUPPLIERS News

WHAT THEY ARE DOING

Reeves Pulley Co. has established an assembly plant, together with sales and engineering offices, in San Francisco, and has opened a sales and engineering office in Los Angeles. R. G. Sullivan is in charge of west coast operations.

SKF Industries, Inc., has under way a $10,000,000 plant expansion, equipment, and machinery replacement program.

V. G. Stanton has succeeded W. N. Given, resigned, as sales manager of **The Kaumagraph Co.,** Wilmington,

Mr. Stanton

Del. He will also continue in his present position as managing director of Kaumagraph Ltd., Canada.

Fred W. Segerstrom, district manager of industrial sales for **Libbey-Owens-Ford Glass Co.,** has been made manager of super fine fiber glass sales in the Fiber Glass Division. He will have offices in the Wayne Building, Toledo, O.

R. F. Edgar has been named midwestern district manager of the industrial division and Roger H. Brown is the new eastern district manager for the **Warner Electric Brake & Clutch Co.** James A. Mason, chief project engineer for the firm, has been transferred to Machinery Electrification, Inc., 98 Union St., Worcester, Mass., the New England outlet for the Warner line of equipment. Elton Miottel has been appointed field engineer.

Gordon E. Elliott of England, who has joined the **United States Testing Co.,** has placed at the disposal of American industry some of the latest and greatest advances in the field of high resolution photography. After seventeen years of research in England he has perfected, among other things, a completely new technique in the reticle production field.

Armstrong Cork Co. has announced the selection of five men for the 1951 Industrial Division Sales Training Program, which will last seven months. Those participating are: J. Freeland Chryst, William M. Martin, Richard E. Smith, David L. Weikel, and Taylor H. Weaver.

Diamond Alkali Co. has an expansion project in process at its silicate of soda plant at Dallas, Tex., estimated to cost several hundred thousand dollars. This is the fourth expansion within ten years, according to W. H. Evans, the company's general manager of silicate operations.

A new firm of **Ruff and Cannon** was recently formed by Cecil L. Cannon, formerly manager of lighting sales for Graybar Electric Co., and Oren M. Ruff, representative for **Day-Brite Lighting, Inc.** It is located at 152 Nassau St., Atlanta, Ga., and will represent Day-Brite in Georgia, Alabama, and East Tennessee.

Robert M. Lundgren was recently appointed vice-president of **The Kuljian Corp.,** and will have charge of the sales program of the firm.

H. J. Daigneault and M. A. Conner, with the firm over thirty years, were recently appointed vice-presidents of the National Aniline Division, **Allied**

Mr. Daigneault

Chemical & Dye Corp. Mr. Daigneault was director of domestic sales, and will continue to direct and coordinate

2 NEW ELECTRIC PRODUCTIMETERS

"C5" and "Y"
ELECTRIC PRODUCTIMETERS
The answer to all electric counting requirements

Two Companion Counters . . . Two Sizes . . .
Hi-Speed . . . Accurate . . . Long Life . . . Totally Enclosed

Speeds of 1000 counts per minute. Both counters give maximum readability. Design fits all mounting conditions . . . panel mounting or base mounting. Hardened steel working parts for long life and dependability.

New type case for compactness, rigidity, and protection against dust and moisture conditions. Operate accurately over wide current fluctuations.

DURANT MANUFACTURING CO.
1973 N. Buffum St. Milwaukee 1, Wis.
173 Orange St. Providence 3, R. I.
Representatives in Principal Cities

Write for "New Electrics" Bulletin

PRODUCTIMETERS SINCE 1879 *Count Everything*

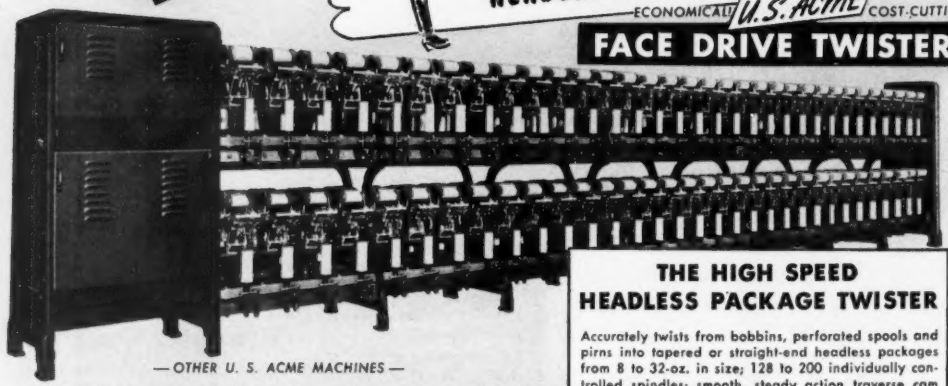
HEADLESS STRAIGHT-END PACKAGE

HEADLESS TAPERED-END PACKAGE

you can meet the quality yarn requirements of today's competitive market—with THE INDUSTRY'S FIRST HEADLESS PACKAGE MACHINE!

ECONOMICAL U.S. ACME COST-CUTTING!

FACE DRIVE TWISTER



THE HIGH SPEED HEADLESS PACKAGE TWISTER

Accurately twists from bobbins, perforated spools and pirns into tapered or straight-end headless packages from 8 to 32-oz. in size; 128 to 200 individually controlled spindles; smooth, steady action traverse cam unit with built-in secondary motion to prevent built-up ends of yarn on packages; new, improved swing unit with floating brake and fingertip release; constant spindle speed; pivoting take-up yoke with mechanically positive stop motion to control each package; new and improved heavy duty back idler unit.

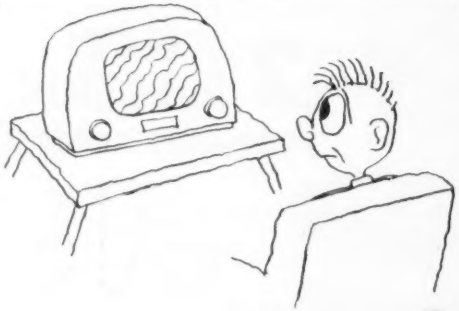
WRITE FOR ILLUSTRATED BULLETIN

— *OTHER U. S. ACME MACHINES* —

U. S. Acme Double Deck Twisters	U. S. Acme Doubler Twister	U. S. Acme Tapered Package Twister	U. S. Acme Spooler
high speed & conventional	down spinner	high speed	high speed

U.S. TEXTILE MACHINE CO.

100 Gilligan St. — Scranton 8, Pa., U. S. A.



lines on your T-V screen?

Lines on your TV screen are an annoying form of static . . but static in your warpers, slashers, cards and drawing frames is *costly!* Static in all textile machinery can be completely eliminated . . safely and inexpensively . . . by the Simco *"Midget"*. Folder "T-7" will tell you all about it.

the SIMCO company

920 Master St., Philadelphia 22, Pa.

Sterling Ring Travelers

CHECK-UP

After the hot weather and extra hard use to which your spinning and twisting has been subjected, how are your rings?

If they are badly worn and can't be replaced now, a different Traveler should give better results.

CONSULT OUR ENGINEERS

M. H. CRANFORD
Box 204 Chester, S. C.
D. R. IVESTER
Box 882 Clarkesville, Ga.
T. B. FARMER
Box 150 Langley, S. C.
J. S. FURTADO
Box 803 Fall River, Mass.

STERLING RING TRAVELER CO.

FALL RIVER, MASS.

National Aniline sales of dyes, organic chemicals, and synthetic detergents. Mr. Conner will concentrate upon manufacturing activities and long range planning. The Chicago warehouse facilities of the firm have moved to larger quarters at 3355 W. 48th Place.

A new fine chemicals division has been formed by **Pittsburgh Coke & Chemical Co.**, which has a manufac-

Dr. Barrick

turing program that includes a selected range of dyestuffs, pigments and intermediate products, pharmaceutical intermediates, textile auxiliaries, and other chemicals. Dr. L. D. Barrick has been appointed manager, with R. M. Locke as assistant.

Walter B. Morehouse was recently appointed sales manager of the textile specialties division of **Nopco**

Mr. Morehouse

Chemical Co. He succeeds Harold C. Meegan, deceased.

Albert G. Blank has been named assistant sales manager of the dryer division of **Proctor & Schwartz, Inc.** He has been in sales work for the firm since 1934.

Miller Motor Co., air and hydraulic cylinders, has built a modern plant comprising an area of about 50,000 sq ft, at Melrose Park, Ill. A welcoming open house is planned for September 15.

The **Louis Allis Co.** has celebrated its 50th anniversary as manufacturers of electric motors. The firm, originally known as the Mechanical Appliance Co., began in an old shoe factory in Milwaukee, Wis., and now has a great plant with nationwide sales and service representation.

The Bahnson Co. has announced that its annual operating and maintenance engineers' classes will be held at the Robert E. Lee Hotel in Winston-Salem during the weeks of Oct. 1-5 and Oct. 15-19, 1951. Courses are designed to assist operating personnel in becoming more familiar with their air conditioning and refrigeration systems. Classes are open to all and there is no charge. The first course (Oct. 1-5) will cover evaporative cooling systems, while refrigeration systems will be discussed in the second (Oct. 15-19). For complete information, write Dept. S, The Bahnson Co., Winston-Salem, N. C.

The partnership of J-H-G. Cadgene-W. Brundage trading as Cadgene Machinery Co. has been dissolved and a new corporation formed, known as **Cadgene Machinery Co., Inc.** Jacques Cadgene is president of the organization, with Walter Brundage and Oswald Saldarini serving as vice-presidents. Helmut Koppel is secretary and treasurer.

SUPPLIERS News
WHAT THEY ARE DOING

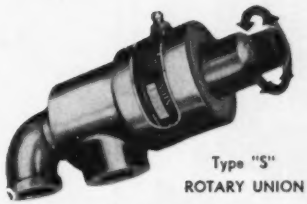
E. A. Scott, with **Seydel-Woolley & Co.**, Atlanta, Ga., for twenty-five years, recently retired, as did R. F. Murray, office manager. Mr. Scott has been succeeded by Vasser R. Mills, who will be technical sales representative in the territory of Ala-

Mr. Mills

bama, Georgia, and Mississippi. Mr. Mills, formerly with Dan River Mills, Inc., is the son of W. H. Mills, Forest City, N. C., who retired from Seydel-Woolley several years ago. The firm has also announced construction plans which will double the capacity

ROTARY UNIONS

Trade Name



Type "S"
ROTARY UNION

97,000 Units Now in Use

We have specialized in producing steam joints for over 18 years.

The Type "S" ROTARY UNION pictured above was developed especially for use on all textile equipment where high speeds and uninterrupted service are required. Because of their extremely accurate lapping, oversize precision ball bearings, anti-wobble rotating shafts, and flexible hose connections, ROTARY UNIONS far outlast other joints and require practically no attention for many months.

Join the thousands of ROTARY UNION users by installing them on your slashers, dry cans, calenders, printing, and coating machines. Write for Catalog 600 I for full information.

"WHERE Good Connections COUNT"

PERFECTING SERVICE COMPANY

332 Atando Ave. (Home Office and Factory) Charlotte, N. C.

Offices in Chicago — Cleveland — Philadelphia — Providence — Jersey City

DARNELL CASTERS
& E-Z ROLL WHEELS

Whether for light, medium or heavy duty use, Darnell Casters and Wheels are built to take punishment.

KEEP TURNING AND EARNING

Built-in quality assures a long life of efficient service—it pays to "Demand Darnell Dependability".

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST. NEW YORK 13, N.Y.
36 N. CLINTON CHICAGO 6, ILL.

Pick 6 employees whose work is below average

Don't tell them what it's all about—just let our man test their eyes (the test takes less than four minutes).

A large percentage of slow workers, with high spoilage and accident rates, *are handicapped by defective vision.*

Thousands of plants have found that they simply cannot afford to hire a worker without testing his eyes. Periodic re-checking also pays them handsome profits.

Write us for a sample test of a few of your below-average employees—or for Bulletin T.

KEYSTONE VIEW COMPANY, Meadville, Penna. Established 1892. Originators of Binocular Vision Testing in Industry.

KEYSTONE *Occupational Visual Service*

PROMPT SERVICE

WITH QUALITY WORKMANSHIP

Two to three weeks delivery on all repairs to Rollers, Flyers & Spindles

Repairing all types of Rolls and making New Steel Rolls.

Overhauling Drawing a Specialty.

Repair and make NEW Card Room Spindles

Make new any Fluted Roll • Lifter Rods Gears • Trumpets

SATISFACTION GUARANTEED ON ALL WORK

Pres. and Gen. Mgr.: Mr. Sam Tull

GASTONIA ROLLER, FLYER & SPINDLE CO., INC.

1337 W. Second Ave. Gastonia, N. C.

Phone 5-1531 or 5-1030

SUPPLIERS News
WHAT THEY ARE DOING

of the plant, at a cost of approximately $100,000, exclusive of equipment. The new building will be devoted completely to the production of chemical softeners, penetrants, and wetting agents used in a new wet process developed by the firm a short time ago.

Harry R. Wade, with the firm since 1939, has been appointed sales representative for **Textile Machine Works** in the southern states. He succeeds Emerson A. Shoemaker, who was made manager of the knitting machine division.

Glenwood Machinery Associates, Inc., 384 Glenwood Ave., East Orange, N. J., has been formed to manufacture and develop special textile machinery. Charles F. Jones, Jr., is president, Helmuth Sonntag vice-president, and George Westwater secretary-treasurer, all having been previously associated with Kearny Mfg. Co. One machine now reported to be under development by the new firm is a completely automatic quill polishing machine, details of which will be announced later.

At the recent annual meeting of **Scott Testers, Inc.,** David C. Scott, Jr., was elected president to succeed his father, who died May 12. He will continue as sales manager. Dianna Scott Worthington was made secretary, and William G. Ahlson, assistant treasurer. Other executive personnel remain as before.

The Warwick Chemical Division of **Sun Chemical Corp.** has opened a new laboratory to be devoted exclusively to problems of color chem-

ARNOLD, HOFFMAN RENOVATES HOME OFFICE

The formal opening of Arnold, Hoffman's newly renovated office and laboratory building at 55 Canal Street in Providence, R. I., took place at an open house celebration on August 2.

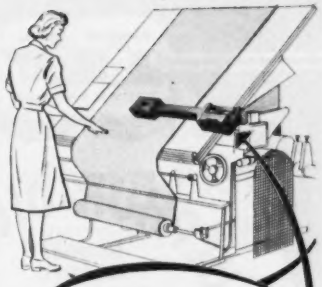
For 105 years this same building has served as the home of Arnold, Hoffman & Co., Inc., but the renovated structure only faintly resembles the original.

The old structure was originally two separate buildings; now, one complete building houses everything. There's a new street floor front, new windows, and new brick walls. Old-fashioned wide board flooring has been covered with asphalt tile or carpeting. Masonry walls have been refinished.

Whereas previously the old building furnished storage and shipping facilities, the renovated structure is taken over almost completely by offices and laboratories.

On the first floor are a reception room, the president's office, administrative offices, Providence sales offices, etc. Other officers and department heads are on the second floor, and at the rear of this floor are the sales service laboratory and other laboratory facilities. Except for the library and a supply storage room, the third floor is devoted to research and development laboratories and a cafeteria for the staff.

Scene in the completely equipped research laboratory.



Something you owe your customers

Accurate textile measurement is what your customers expect. Give it to them! Show them indisputable evidence with a "TRUMETER" printed ticket or mill tag, delivered at any point during the run. This way you not only eliminate short-measure complaints and illegible hand-written records—you cut out waste *completely*. And that means EXTRA PROFITS!

"Trumeter" Standard Measuring Machine

"TRUMETER" can be fixed to most Inspection, Plaiting, Winding, Rolling and Doubling machines. Models are available for all types and widths of material—fine nylon, woollens, worsteds—even carpets, plastics, etc. It adds one way—subtracts the other and delivers its printed ticket with one depression of a lever. "TRUMETER" is always accurate —always reliable. There's one for *your* need. Write now for particulars of complete line.

"TRUMETER"

MECHANICAL COUNTERS *for most industrial needs.*
- *MEASURING*
- *PRE-DETERMINED*
- *REVOLUTION*
- *STROKE*

Write for details of full line to:

TRUMETER COMPANY
1265 Broadway, New York City, New York

TC
TENNESSEE CORPORATION

SULPHUR-DIOXIDE
HIGHEST QUALITY
SO_2

Tennessee Liquid Sulphur Dioxide—the chemical with hundreds of uses is now available in Cylinders, Ton Drums, Truck Tanks and Tank Cars. The Tennessee Corporation, producers of highest quality Sulphur Dioxide is located in the great Textile producing area assuring closer contact and speedier more efficient service.

FOR HYDROSULFITE MANUFACTURING

FOR DECHLORINATING

FOR ACID SOUR

Let us consult with you on the possible uses of Sulphur Dioxide in your industry, 'phone, wire or write the Tennessee Corporation, Grant Building, Atlanta, Georgia.

TENNESSEE TC CORPORATION
619 Grant Building, Atlanta, Ga.

Key to a Major War Need

Without rings, no yarn; without yarn, no cloth—and cloth is a major wartime need. Ragan Rings increase production. They have an "air-conditioned" finish—Aero High-Micro Finish with air-conditioned surface that is uniform, without hills or valleys. The traveler "floats" with shorter break-in, fewer ends down, less changeover shutdown.

Let us figure on replacements *now*.

Ragan Rings

RAGAN RING COMPANY
The only manufacturers of Textile Rings in the South
866 Murphy Avenue, P. O. Box 174, Station A, Atlanta, Ga.

REPRESENTATIVES

JOHN FOARD — P. O. Box 574 — Newton, N. C.
ARTHUR HARRIS • H. B. "BOOTS" ASKEW • MARK CHAMBERLAIN
443 Stonewall St., S. W. — Atlanta, Ga.
HENRY HERSEY — 44 Norwood Place
DEAN THOMAS — Greenville, S. C.

- Hydraulic Lift Kiers
- Stainless Steel Weldments
- Heat Recovery Systems
- Circulation Systems
- Kiers — Steel or Stainless
- Top Dyeing Equipment
- Allen Heaters
- Jacketed Vessels
- Sampling Kiers
- Stainless Steel Dyeing Equipment
- Stainless Steel Tanks
- Continuous Steamers

William Allen Son's Company
Worcester 8, Mass.

SUPPLIERS News — WHAT THEY ARE DOING

istry relating to decorative printing of textiles and plastics.

United States Rubber Co.'s textile division has established a new sales department for synthetic yarns and synthetic industrial fabrics, headed by Charles S. Fowler, merchandise coordinator of the textile division.

Raymond A. Pingree, recently with Sun Chemical Corp., is now vice-president and technical director of the **Crown Chemical Corp.**, Providence, R. I.

Ralph Gossett and Co., Greenville, S. C., has been named sales representative for **Emmons Loom Harness Co.** in South Carolina, and will act as suppliers and consultants on the use of Emmons products.

The newly-formed firm of **Parrott and Ballentine**, Greenville, S. C., has

Mr. Ballentine **Mr. Parrott**

been appointed sales agent in the southern states for **Van Vlaanderen Machine Co.**

A. H. Borchardt was recently elected a vice-president of **Worthington Pump and Machinery Corp.**, with the overall responsibility for the sale of the firm's entire line of pumping equipment. The Harrison, N. J., plant of Worthington is the new headquarters of the sales and engineering functions of the water treating section. The engineering function will continue under the charge of J. F. Sebald, with A. L. Jones in charge of the sales function.

Dr. Karl Heyman, W. O. Schlimbach, and R. H. Sommer, formerly with Kearny Manufacturing Co., Inc., have taken over a chemical factory and will manufacture and market a complete line of textile finishing chemicals as well as conditioning chemicals. The new firm is known as **Mona Industries**, located at 65-75 East 23rd St., Paterson, N. J. George Westwater, formerly with Kearny,

H & B's Alex King Retires

Alex King, of Atlanta, is congratulated upon his retirement from **H & B American Machine Co.**, after 43 years of service, by Walter Greenwood, secretary.

has also joined Mona as exclusive representative for the New England states, and Helmuth Sonntag serves as a consultant engineer. Messrs. Fawcett & Co., Toronto, Ontario, will represent the firm in Canada.

In a reorganization plan, **E. I. du Pont de Nemours & Co., Inc.**, announced that manufacturing activities and sales of acetate rayon and "Orlon" acrylic fiber have been separated. Thomas H. Urmston continues in charge of acetate rayon operations; J. N. Tilley, assistant manager, now heads activities for "Orlon." Henry C. Froehling becomes director of sales for acetate rayon. A. J. Smith, Jr., manufacturing superintendent of the firm's Seaford, Del., nylon plant, has been appointed assistant director for sales of "Dacron."

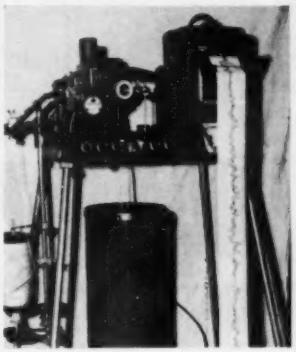
Alton P. Siddons, formerly with Supreme Dyeing & Finishing Co., has joined the technical staff of

Mr. Siddons

Amalgamated Chemical Corp., Philadelphia, Pa., and will assist in the recently expanded service department available to the textile wet finishing trade.

The **General Radio Co.** has a new plant under construction at Concord, Mass., which will provide facilities for approximately 200 employees.

Better Quality Control Starts with the Pacific Evenness Tester



A direct comparison between the multiple forms of textile strands with their varying sizes and characteristics can only be made by the establishing of a *true thickness*, which the Pacific Evenness Tester provides rapidly and with a *permanent record* of the quality of the material for each successive stage of processing.

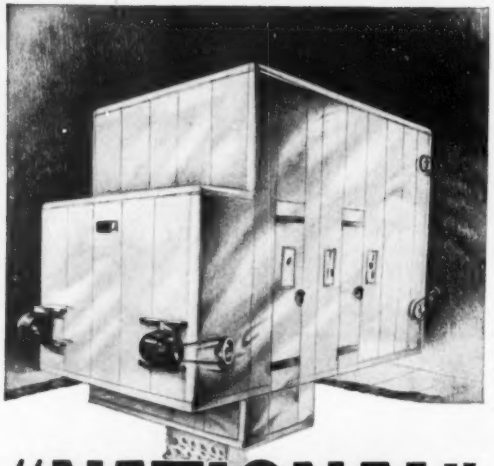
Results are unaffected by moisture, oil, finish, twist, beard, color, shape of cross-section and atmospheric conditions. The test does not affect physical characteristics and the material can be re-tested again and again with exact duplication of recording and without waste.

Write for complete details about the Pacific Evenness Tester. We invite you to send samples for testing.

ANDERSON

MACHINE SHOP, Inc.

Needham Heights, Mass.



"NATIONAL" PRINT GOODS DRYER

MODEL PTD-4

New standards for efficiency, speed and versatility are established in this latest model PRINT GOODS DRYER by "NATIONAL".

PRE-DRYER SECTION. A specially designed tower structure which operates to assure three significant results—(1) a positive color set as the result of exceptionally quick drying to the required degree; (2) reduction to absolute minimum the space necessary for this operation; and (3) important savings in the time and costs involved in finish drying. Increased drying capacity in this section may be obtained by use of "Drop Leg" extending through floor to room below.

FINISH-DRYER SECTION. Here the cloth passes over a series of rollers in constant over-all contact with the circulated air. Rollers are so arranged that entire passage of the cloth is accomplished without contact between printed surface and rollers.

VARIOUS ARRANGEMENTS. Because of its unique self-contained unit construction, the "NATIONAL" Print Goods Dryer may be installed in several ways to meet particular production requirements or existing plant conditions.

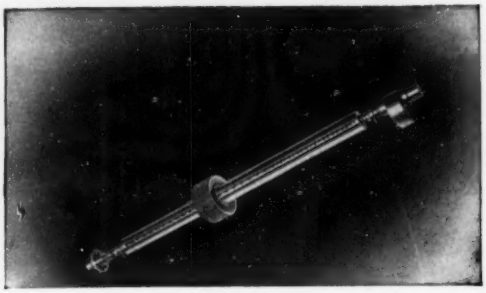
HIGH-SPEED FOLDER. If desired, the Dryer can be equipped at the back with a special High Speed Folder which, operating in conjunction with Draw Rolls, pleats the dried cloth into folds in trucks or on skids.

Write for New Illustrated Pamphlet

THE NATIONAL DRYING MACHINERY CO.
LEHIGH AVENUE and HANCOCK STREET
PHILADELPHIA 33, PENNA.

New England Agent: INGALLS ENGINEERING CO.—Providence, R. I.
Southern Agent: F. W. WARRINGTON—Charlotte, N. C.

DRYING AND CONDITIONING MACHINERY FOR TEXTILES, CHEMICALS, CERAMICS, ETC.



NEW ROY Internal Ball Bearing Cotton Traverse Grinder gives you smoothest grinding action ever known. The grinding wheel floats back and forth across the tube giving the wire a breezing touch action and accurate side grind.

This advantage—the result of long experimentation with various types of ball bearings—means added years of service when properly installed in a new as well as an old grinder.

B. S. ROY & SON COMPANY

Established 1868

Worcester, Mass. — Charlotte, N. C.

Sales Engineers in the South:
Charles E. Hendrick—L. P. Bell—B. L. Quick
Office and Plant, 1623 North Tryon Street, Route 29,
Charlotte, N. C.—Tel. 5-3845.

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tanks for the TEXTILE INDUSTRY

The new "CHR" can be used for cooking or cooling. Wiping action of mixing paddles keeps mix from lumping or adhering to tank sides.

Write today for bulletin CHR-50.

Standard capacities: 60, 150, 300, 500 and 1000 gallons.

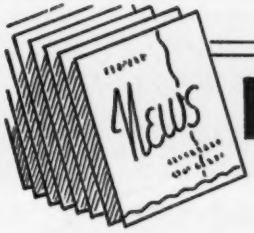
These stainless steel, fully-insulated SAN-I-TANKS . . . size cookers . . . dye tanks . . . are made especially for the textile industry, custom-built at standard prices for special or standard applications.

The new "CJ" is a vertical tank designed for maximum efficiency in minimum space. As with other SAN-I-TANKS, "CJ" can be equipped with top or side-entering agitators and other fittings and connections. Standard capacities: 60 to 1350 gallons.

Write today for bulletin JS-50.

Belding 7, Michigan

STAINLESS STEEL SAN-I-TANKS
METAL GLASS PRODUCTS COMPANY
Suppliers of Stainless Steel SAN-I-TANKS of All Types for the Textile Industry



HELPFUL Booklets FREE

Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 254 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES advertisers).

This service is restricted to those engaged in operation and management of textile industries

9-1. Unbrako "Standards." New booklet explains how "standards" offer savings to screw products users and, in view of increased interest in "standards instead of specials," the booklet was made available. Detailed informaion about: socket head cap screws; self-locking socket set screws; socket set screw points, etc. Standard Pressed Steel Co., Jenkintown, Pa.

9-2. Incinerator Catalog. A new 16-page catalog covering the complete Plibrico incinerator line. Covers the Rubbish Incinerator in four standard sizes rated at 500 to 3500 lbs. per hour; also the Portable Incinerator in four sizes from 135 to 450 lbs. per hour. Also described are special incinerators for garbage and cafeteria refuse, biological and pathological material, wood refuse and special applications. Plibrico Jointless Firebrick Co., 1800 Kingsbury St., Chicago, Ill.

9-3. Organic Chemicals. Supplement 37-3 to the Eastman Organic Chemicals List No. 37 is available. Listing 77 new chemicals, the new list gives molecular weights, structural formulas, and melting or boiling ranges for many new chemicals listed. Distillation Products Industries, Eastman Organic Chemicals Dept., Rochester 3, N. Y.

9-4. Atomic Defense. "How to Prepare Your Plant for Atomic Attack" is the title of a new 32-page illustrated booklet on industrial plant security. The booklet is believed to be the first on this vital subject intended specifically for industrial management and safety personnel, prepared and distributed solely at the expense of a private company. Simple language presents the latest factual information about the atomic bomb, its destructive potential and its limitations and other valuable information to plant management. Walter Kidde & Co., Inc., Dept. A, 675 Main Street, Belleville 9, N. J.

A-5. Stroboscopic Equipment. The bulletin "Eyes for Industry" describes fully this company's line of stroboscopic instruments and discusses a few of their many applications. Illustrated booklet shows photograph taken with single-flash strobolux of shuttle in motion—clearance can be checked and path of the yarn easily seen. General Radio Company, 275 Massachusetts Ave., Cambridge 39, Mass.

9-6. Industrial Floor Care. How modern floor cleaning equipment can save about 2/3 in man-hours in cleaning, waxing and polishing is described in a new two page bulletin. Illustrations, diagrams and case histories, describes a new technique for the care of heavy traffic floors, including asphalt tile and hardwood. Process described as eliminating use of water or detergents; wax is applied dry by a revolving cylinder which simultaneously polishes floors. G. H. Tennant Company, 2585 N. 2nd St., Minneapolis 11, Minn.

9-7. Bramwell Feeders. New Brochure pictures and describes the many types of feeders manufactured by this company and describes the savings attained by the use of these feeders. George S. Harwood & Son, 50 Lagrange St., Worcester 8, Mass.

9-8. Belt Booklet. New 16 page booklet on belting which includes practical maintenance suggestions and engineering data. Well illustrated booklet contains information on making belts endless on pulleys, types of motor boxes, fasteners, lacings, cement, preservatives and repairing belting. C. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

9-9. Vertical Turbine-Type Pumps. Eight page catalog No. 7228, describing the class APH-APK line of vertical, turbine-type pumps. These pumps are particularly applicable to bulk liquid transfer, cooling tower, dewatering and similar services where suction is taken from an open source. Single or multi-stage construction, with any desired column length, described as ranging in size from 6 to 30 inches, for capacities to 15,000 gpm, and pressures to 250 psi. Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y.

9-10. Bearing Catalog. Engineers and specifyers of industrial roller bearings and mounted units will be interested in obtaining a copy of the new Shafer Catalog No. 51. Fully illustrates and describes the line of Shafer products including pillow blocks, flange units, flame cartridge units, cartridge units, duplex units, take up and frame units plus unmounted roller bearings. Complete engineering and load rating data with many product applications. Shafer Bearing Corp., 801 Burlington Ave., Downey Grove, Ill.

9-11. Air Conditioning. Basic methods and principles of modern textile air conditioning for efficient economical mill operation are presented in graphic form in a new manual released by Carrier Corporation. Air conditioning saw its first major development in the textile industry, the booklet underscores the intensified present-day need for temperature and humidity control as a result of rising labor costs, new high speed precision machinery, and increasing use of synthetic fibers. Carrier Corporation, 300 S. Geddes St., Syracuse 1, N. Y.

9-12. Building Maintenance. "Over the Rough Spots" is the title of a new pocket-size, 32-page booklet which gives a searching analysis of your flooring problems in three minutes. Graphically illustrated, it tells where to look for and how to correct bad floor conditions, and how to protect both concrete and wood flooring and maintain prper repair by comparatively unskilled workmen. Standard Company, 525 Stonhard Bldg., 1306 Spring Garden St., Philadelphia, Pa.

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14 **TEXTILE WEIGHT CONTROL**—Forms 2009 and 2010, showing how Toledo Printweight weight records cut costs by eliminating human errors at the scales. Special purpose scales for the Textile Industry fully discussed.—TOLEDO SCALE CO., Box 97, W. Toledo Sta., Toledo, Ohio.

16 **TEXTILE RESEARCH** — Booklet describing Research Department's commercial scale facilities for cotton spinning, worsted spinning, etc. Explains organization and function of department.—AMERICAN VISCOSE CORP., SYLVANIA DIV., New York, N. Y.

17 **A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK**—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

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103 **HUMIDIFICATION, EVAPORATIVE COOLING** —Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

107 **FINNELL SCRUBBERS**—Illustrated leaflets describing and giving specifications for the Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart Ind.

109 **CARD STRIPPER**—Portable dustless card stripper described in bulletin 1050. Advantages of dustless stripping when combined with thorough brush stripping. Used alone or with other systems discussed.—PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

121 **STEAM GENERATORS** — Bulletin P-1 describes compact package type boiler for heating, power, or processing. Described as fully automatic, firing all liquid or gaseous fuels.—THE CYCLOTHERM CORP., Oswego, N. Y.

122 **CORROSION-PROOF CEMENTS** — Bulletin 5-1 lists a complete line of acid and alkali-proof cement.—ATLAS MINERAL PRODUCTS CO., Mertztown, Pa.

123 **STAINLESS STEEL TANKS** — Bulletin CHR-50 illustrates the half round stainless steel horizontal jacketed tank with horizontal agitator and scraper blades, used for size cooking. Bulletin JS-50 shows various stainless steel jacketed tanks, and SS-50 shows single shell tanks.—METAL GLASS PRODUCTS CO., Belding, Mich.

132 **SANDING AND FINISHING**—With Coated Abrasives, 88 page illustrated booklet on modern production methods, including information on the use of "Texalox" Cloth take-up roll covering and Fillet Cloth for sharpening card cloth.—THE CARBORUNDUM CO., Niagara Falls, N. Y.

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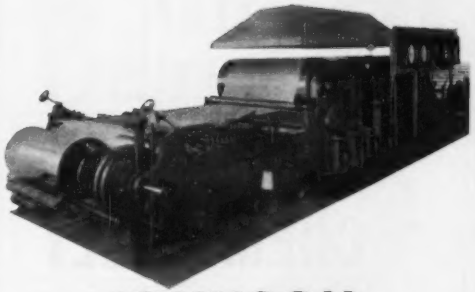
150 **RIHCO HUMIDIFIERS AND COOLING SYSTEMS**—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

157 **MAINTENANCE** — Silicone water-repellent for masonry described in data sheet XR-129G-1. Properties and application of an invisible, durable, non-



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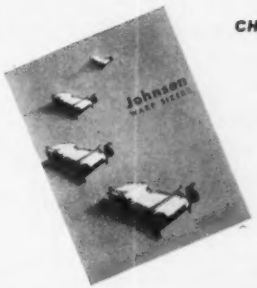

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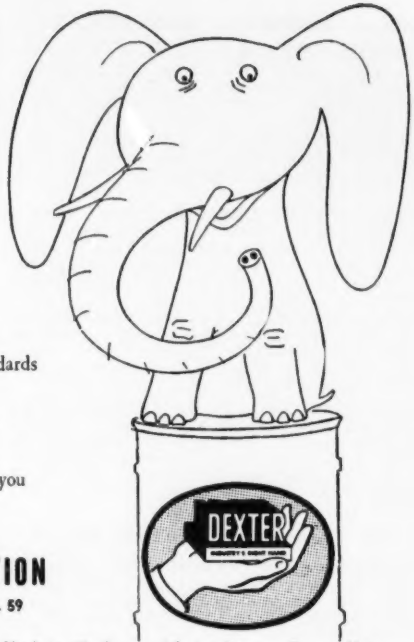

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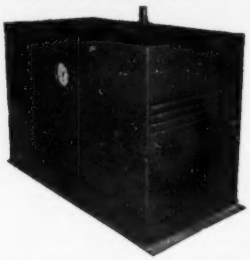

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173 **BLOWERS AND EXHAUSTERS** — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings.—BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

181 **AIR FILTRATION AND DUST CONTROL** — Booklet on atmospheric control, including engineering data on systems.—AMERICAN AIR FILTER CO., INC., 275 Central Ave., Louisville 8, Ky.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION

202 **RELIANCE MOTOR**—Bulletin C-130 on the explosion-proof, corrosive-resisting a-c motor. Design features exclusive with the new motor are connected and illustrated in the bulletin.—THE RELIANCE ELECTRIC & ENGINEERING CO., 1076 Ivanhoe Road, Cleveland, Ohio.

205 **VARIABLE SPEED SPINNING FRAME DRIVE**—Reeves bulletin G-501 describes the Reeves Vari-Spin Drive which has infinitely variable speed within a 2½ to 1 range and replaces the constant speed drives now in use.—REEVES PULLEY CO., Columbus, Ind.

206 **LOOM MOTOR BULLETIN**—The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed.—THE LOUIS ALLIS CO., 427 E. Stewart St., Milwaukee, Wisconsin.

210 **MOTOR BEARINGS**—The 1950 edition of Johnson's Industrial Bearing Catalog is now available. Shows several new motor bearings added, along with the standard stock sizes.—JOHNSON BRONZE CO., New Castle, Pa.

213 **ELECTRICAL SPECIALTIES**—Catalog No. SS68, 64 pages, lists manual and magnetic motor control and accessories, safety switches, Multi-Breakers and electrical specialties.—CUTLER-HAMMER, INC., 361 N. 12th St., Milwaukee 1, Wis.

214 **THE INSIDE STORY OF TRICO RENEWABLE FUSES**—Bulletin No. 1 explains the difference between Trico Powder-Packed and ordinary fuse link design. Quick reading, informative, profusely illustrated. Tells how maximum returns may be secured from fuse investment.—TRICO FUSE CO., 2948 N. 5th St., Milwaukee 12, Wisc.

216 **LEATHER BOOKLET NO. 202**—Attractive book illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., 617 Arch St., Philadelphia, Pa.

223 **ELEVATOR SELECTION**—How to integrate the selection of freight elevators with the material handling problem answered in 44-page booklet B-4402 on freight elevators. — ELEVATOR DIVISION, WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh, Pa.

232 **LUBRICATION EQUIPMENT**—Industrial catalog No. 63 illustrates and describes complete line of power and manually operated lubricating equipment, grease fittings and accessories.—LINCOLN ENGINEERING CO., 5701 Natural Bridge Ave., St. Louis 20, Mo.

240 **LEATHER BELTING**—Illustrated booklet on how to select, install and maintain leather belting. Efficient transmission performance, with minimum maintenance, and maximum service life described.—SOUTHERN BELTING CO., 236 Forsyth St., N.W., Atlanta, Ga.

244 **TEXACO SPINDURA OILS**—Folder on lubrication for all types of spindles, based on actual tests. —TEXAS CO., 135 E. 42nd St., New York 17, N. Y.

254 **LOOM RECONDITIONING PROGRAM AT TALLASSEE MILLS**—Reprint of exclusive story on the loom reconditioning program at one of the biggest

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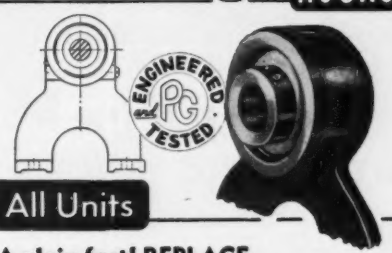

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southern mills. This article shows how central lubricating system was built into each rebuilt loom as part of the improvement program. — BIJUR LUBRICATING CORPORATION, Rochelle Park, N. J.

265 **INTERCHANGEABLE BALL BEARING FOR REPLACEMENT**—Charts showing numbers used by manufacturers to identify bearing characteristics, also information on specifications.—NEW DEPARTURE DIV., GENERAL MOTORS CORPORATION, Bristol, Conn.

266 **LUBRICATION** — Bulletin BG2-DC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described.—DOW-CORNING CORP., Midland, Mich.

272 **LUBRICANTS FOR TEXTILE MACHINERY**—Houghton's 6-page folder includes complete recommendation charts for lubricating all types of textile equipment.—E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

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INSTRUMENTS, STEAM SPECIALTIES

300 **TEXTILE DIGEST** — 18-page manual reviewing performance-proved procedures for improved handling of more than 60 essential cleaning and related operations in textile mills.—OAKITE PRODUCTS, INC., 22 Thames St., New York, N. Y.

301 **JOHNSON ROTARY PRESSURE JOINTS**—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices.—THE JOHNSON CORP., Three Rivers, Mich.

307 **THERMOMETER AND PRESSURE GAUGES**—Catalog 6705-R and 6706 give data on both circular and rectangular case pressure type thermometers for indicating, recording and controlling processing operations in textile industry.—MINNEAPOLIS-HONEYWELL REGULATOR CO., Industrial Div., 7th and Grange Sts., Philadelphia, Pa.

311 **PIPING POINTERS**—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.

314 **MOISTURE CONTENT CONTROL** — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications.—BARBER-COLMAN CO., Rockford, Ill.

316 **HYDRAULIC POWER UNITS** — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

319 **GUIDE TO CORRECT INSTRUMENT SELECTION**—This completely revised edition gives a comprehensive bird's-eye view of the companies' entire instrument line. Bulletin 98170. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

324 **STROBOTAC** — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." —GENERAL RADIO CO., Cambridge 39, Mass.

327 **PRESSURE REGULATORS** — Bulletin P-100 describes equipment for slashers to provide squeeze roll pressures that can be easily adjusted to the correct value for any warps being sized.—NORCROSS CORP., Newton, Mass.

329 **COUNTERS**—Leaflets describing Yardage Counters, Hank Clocks, Pick Counters—many types available for every make frame, loom, etc.—WAK INDUSTRIES, 1814 S. Tryon St., Charlotte, N. C.

334 **TEXTILE MILL INSTRUMENTS** — Eight-page bulletin 98180 describes the use of automatic control instruments used on such processes as size cooking, storage kettles, size boxes, slashers, dye vats and driers. —TAYLOR INSTRUMENT COS., Rochester, N. Y.

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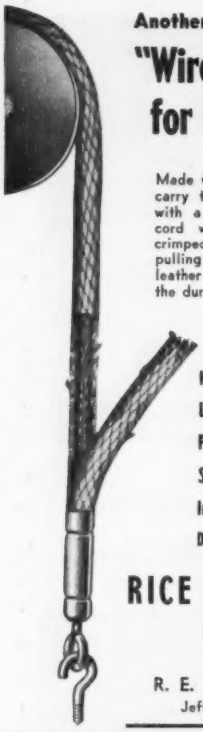

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CARDING, SPINNING, WINDING

401 LUMMUS DUSTLESS, STEEL BLENDING FEEDERS—Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking.—ALDRICH MACHINE WORKS, Greenwood, S. C.

402 AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS—24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings.—THE AMERICAN MONORAIL CO., Cleveland, Ohio.

404 LAPLESS ENDLESS SPINNER—Bulletin and full information will be supplied on lapless endless spinner and coning belting.—TON-TEX CORPORATION, 16 West 61st St., New York, N. Y.

405 UPTWISTERS PRODUCING TWO NEW TAKE-UP PACKAGES—Tapered and headless for all low twist yarns and King Spool for high and low twist yarns without sloughing. High speed delivery without coning. Fully discussed in booklet.—FLETCHER WORKS, INC., Philadelphia, Pa.

412 SERVICE FOLDER—Folder covers textile metal products including spinning and twisting cylinders, card screens, etc.—JENKINS METAL SHOPS, INC., Gastonia, N. C.

413 SONOCO PRODUCTS — A 54-page illustrated booklet giving description, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spooling, rolls, etc. —SONOCO PRODUCTS CO., Hartsville, S. C.

418 PACIFIC CONVERTER—Graphic description of machine that cuts any synthetic tow, and when desired, blends it with wool or staple silver, keeping the fibers parallel, and issuing an even sliver of accurate blend.—WARNER & SWASEY CO., Cleveland, Ohio.

419 TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

422 MODERN TEXTILE ROLL COVERING—Illustrated booklet on roll covering problems with charts on correct usages. Also data on Acotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

430 "SLIXONICE" BEARINGS—Folder is available on this new, frictionless bearing "that never needs lubrication."—DIXON LUBRICATING SADDLE COMPANY, Bristol, R. I.

436 MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

439 DOUBLE TWISTER—Folder shows U. S. Acme Jumbo Double Twister for combining from 2 to 12 ends of yarn, doubling and twisting in one economical operation.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

456 WARP TYING—Bulletin T-2 on the "Two-In-One" Titan automatic warp tying machine—speed, flexibility, efficiency, and economies fully discussed.—EDDA INTERNATIONAL CORP., New York City, New York.

462 TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc.—DAYTON RUBBER CO., Dayton, Ohio.

WEAVING, SLASHING

503 WEAVER'S KNOTTER—A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter.—A. B. CARTER, INC., Gastonia, N. C.

507 VARIABLE SPEED SLASHER DRIVE — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher.—REEVES PULLEY CO., Columbus, Ind.

510 THE ROMANCE OF PRAIRIE GOLD—Attractive illustrated book which tells the story of corn and the uses of corn products to industry.—CORN PRODUCTS SALES CO., 17 Battery Place, New York, N. Y.

513 SEYCO PENETRANTS FOR YARN CONDITIONING—Folder describing the scientifically formulated Seyco sizing.—SEYDEL-WOOLLEY & CO., 748 Rice St., Atlanta, Ga.

521 STEEL WARP BEAMS—30 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broadloom and narrow fabrics. Also Textile Machinery Specialties.—MILTON MACHINE WORKS, INC., Milton, Pa.

528 PARTS CATALOGS FOR WP&M SLASHERS, SIZE KETTLES AND PUMPS—This 42-page illustrated catalog of parts contains exploded views and part numbers for quick identification.—WEST POINT FOUNDRY & MACHINE COMPANY, West Point, Ga.

DYEING, FINISHING, CLOTH ROOM

603 DEPUMA—An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

609 FRYTEX PRODUCTS—A folder of descriptive circulars on chemical specialties developed for use in printing, finishing, dyeing, weaving and sizing of cotton, rayon, staple fibre, wool and worsteds.—BRYANT CHEMICAL CORP., 6 North St., New Quincy, Mass.

610 PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery. —PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

634 APPLICATION OF INTERCHEM ACETATE DYES—Bulletin IAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes. — INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Hawthorne, N. J.

646 FOLDER—Circular No. 1062 describes this ceiling type square frame Folder with swing rolls

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for making the fold mounted on a horizontal axis. Ball-bearing throughout.—BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

650 CLOTH OPENING BULLETIN—Bulletin illustrates and describes the various types of opening equipment that can be furnished for all cloth opening requirements. Bulletin describes as the only type of opening equipment that can be safely used on a great many types of goods, and the opening operation can be made automatic even when the goods are badly twisted. —MOUNT HOPE MACHINERY CO., 15 Firth St., Taunton, Mass.

DYESTUFFS, CHEMICALS, SOAPS

702 DEFOAMERS—Bulletin AA-2 lists uses and properties of Antifoam A, which can be effectively used at 10 to 200 ppm in most industrial applications. Emulsions available, improve dispersability in aqueous systems.—DOW CORNING CORP., Midland, Mich.

717 CERFAK 453—Descriptive 4-page folder includes wetting speeds and rewetting data as well as detergency data of this fast, economical and versatile surface action agent useful in all wetting operations.—H. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

765 HOSIERY FINISHES AND FORMULAS—Attractive new booklet describing the Amalgamated line of hosiery finishes and giving numerous finishing formulas.—AMALGAMATED CHEMICAL CORPORATION, Philadelphia 34, Pa.

774 ROYCE TEXTILE CHEMICALS—This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING

801 THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

803 THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

806 STATISTICAL SURVEY—Covering the Full-Fashioned Hosiery knitting industry in the United States and Canada. — TEXTILE MACHINE WORKS, Reading, Penn.

810 ALUMINUM BEAMS—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

812 CIRCULAR KNITTING MACHINES—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Kensington Ave. and M St., Philadelphia 34, Pa.

813 THE NEW REINER HIGH SPEED TRICOT MACHINE—168" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance.—ROBERT REINER, INC., Weehawken, N. J.

SEWING MACHINES

901 LOCKSTITCH MACHINE WITH AUTOMATIC LUBRICATION—Bulletin illustrating new unit for single needle stitching on wide variety of articles. Form 886.—WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York City.

907 "FLATLOCK" MACHINE—Folder No. 902 describing, with illustrations, flat seaming operations on knit underwear, lingerie, etc.—WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York, N. Y.

915 THE NEW UNION SPECIAL LOCKSTITCH MACHINE—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 268.—UNION SPECIAL MACHINE CO., 400 N. Franklin St., Chicago 10, Ill.

MATERIALS HANDLING

1001 HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1003 CASTERS AND WHEELS—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1006 LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007 OVERHEAD HANDLING EQUIPMENT—56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

1009 CANVAS PRODUCTS—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file size. Brief but factual information.—C. R. DANIELS, INC., Daniels, Md.

1011 TEXTILE TRUCKS—Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

MISCELLANEOUS

1101 AUTOMATIC BOBBIN REFINISHER—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 39th St., Milwaukee, Wis.

1115 TEXTILE WRAPPER—Brochure describing automatic wrapping machine for wrapping various types of textile products. Illustrations of packages and all types of wrapping material.—HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1118 PUMPS—Booklet B-148-2 describes the Pearless Hydro-Foil propeller and mixed flow types, which applies aeronautical streamlining fundamentals to water lift. Capacities from 600 to 220,000 G.P.M. against heads from 2 to 60 ft. Fully discussed.—PEERLESS PUMP DIV., FOOD MACHINERY & CHEMICAL CORP., Los Angeles 31, Calif.

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Personal NOTES

ABOUT MEN YOU KNOW

Leander L. Renquin, new superintendent of the Manchester, N. H., plant of Verney Corp., was formerly with Greenhalgh Mills, Pawtucket, R. I.

Henry Caldrice has left North Star Woolen Mills to become boss finisher at the Yantic (Conn.) Woolen Co.

Alfred Greenfield, Jr., formerly with M. T. Stevens & Sons Co., is now superintendent at Arms Textile Manufacturing Co., Manchester, N. H.

Formerly with Lorraine Manufacturing Co., **Lester Redding** has joined George Mabbett & Sons Co., Plymouth, Mass., as designer.

A. F. Quattromani, formerly superintendent of National Ribbon Co., is president and general manager of the recently organized Swan Narrow Fabric Corp., Pawtucket, R. I. **E. G. Lawson** is treasurer.

William N. Banks, president of Grantville (Ga.) Mills, was among twenty-five business leaders selected for the "South's Hall of Fame for the Living."

The American Woolen Co. has announced the election of **John A. Coleman** as a director, to succeed Albert H. Wiggin, deceased.

Chester Boyce, previously with Goodall-Sanford, Inc., has joined American Silk Spinning Co., Providence, R. I., as general mill manager.

Robert Train was recently appointed to take charge of the cotton office of Bibb Manufacturing Co., Macon, Ga. **Hugh M. Comer** was named controller of the firm.

Miss Pearl Wyche retired on July 1 as director of the welfare department at Cone Mills Corp. She had been with the firm for the past 48 years.

Kroy, Inc., Lowell, Mass., recently announced the election of **Eben Esmond Whitman** to the board of directors. He was also named vice-president in charge of sales. **William P. Walker,** vice-president of Kroy Unshrinkable Wools, Ltd., Canada, was elected president of Kroy at the

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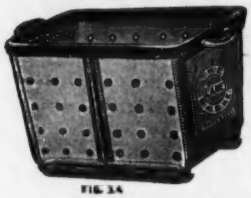

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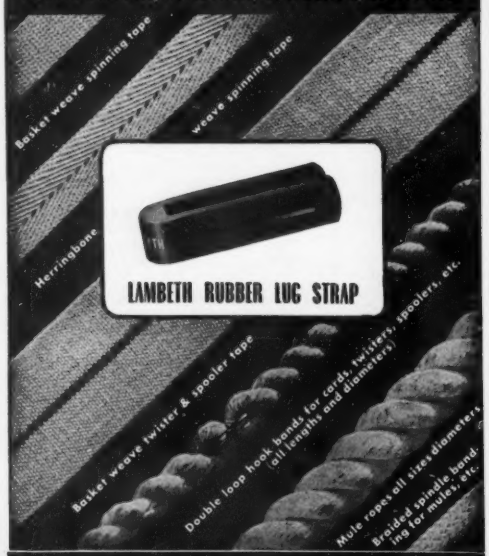
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same meeting; **Miles S. Pendleton** was named vice-president and general manager.

L. L. Trent succeeds **Montgomery Montague** as personnel director of Peerless Woolen Mills, Rossville, Ga. Mr. Montague has been transferred to the purchasing department.

V. Fred Williams, formerly superintendent of Piedmont Cotton Mills, East Point, Ga., has become superintendent of the Pinecrest Cotton Mills, Inc., Pine Bluff, Ark.

Brig. Gen. Richard B. Thornton succeeds **Brig. Gen. Hugh B. Hester,** retired, as commanding general of the Philadelphia Army QM Depot.

Van C. Andrews has been made manager of all of Riegel Textile Corp.'s branch offices throughout the United States. His former position of assistant manager, fabricating sales, has been taken over by **Charles H. Edmonston,** who has been in the sales control and marketing research department.

Felix F. Poire, formerly with Guild Northland Mills, is now superintendent at National Fabrics, Inc., Woonsocket, R. I.

J. Harold May, resident manager of Cranston (R. I.) Print Works Co., Inc., was recently presented with a 25-year service pin. He is the fourth generation of his family to be associated with the print works.

J. A. LeConte, Jr., with Kendall Mills, Walpole, Mass., for the past ten years, has been made head of their interlining department, succeeding Gene Jacobson, resigned.

T. M. Shock succeeds **Duncan Ferguson** as manager of the Shelton and Uncasville, Conn., plants of Sydney Blumenthal & Co., Inc. Mr. Ferguson has been made technical consultant, and has moved to the firm's New York office.

Leslie J. Lundy, previously with DuPont, is now manager of the special fabrics division of Paul Whitin Manufacturing Co., Northbridge, Mass.

Walter Eisenlohr, formerly with Quaker Lace Co., has joined Columbia (Pa.) Lace Co., and will be in charge of manufacturing. **Otis E. Herrman** is now with the sales division, having left Chester Lace Mills.

Walter B. Dillard, formerly of New Braunfels, Texas, is now manager of the Calcot and Canebrade spinning mills at Uniontown, Ala., operated by the California Cotton Mills division of National Automotive Fibers, Inc.

Samuel R. Phillips has been appointed as assistant to the general manager of United States Rubber

Mr. Phillips

Co.'s textile division. He has been with the firm since 1939. **Staton J. Poole, Jr.,** was named to succeed Mr. Phillips as manager of sales and production coordination for the textile division. In the Scottsville, Va., plant of the company, **Elmer L. Johnson, Jr.,** was appointed as assistant to the manager, while retaining his position

Personal NOTES ABOUT MEN YOU KNOW

as industrial relations manager. He succeeds **Stephen A. Ward,** now at the combed yarn plant in Gastonia, N. C.

Grady Faulkenberry has been made superintendent of the new dye plant recently completed by The Republic Cotton Mills, Great Falls, S. C.

Felix R. Hulser has been made manager of mill "B" of Goodall-Sanford, Inc., Sanford, Me. He was formerly with Cheney Bros.

Robert O. Leonard has replaced **Jay H. Meyers** as instructor and research assistant in the wool department of the University of Wyoming. **John T. Larsen** was appointed an assistant in the same department. Mr. Meyers is on leave to study toward a doctorate in wool.

Dwight Epperson, for several years associated with Avondale Mills, Sylacauga, Ala., but more recently with

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Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

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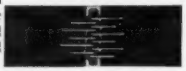

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New Seamless Knit Covers for Card Scavenger Rolls

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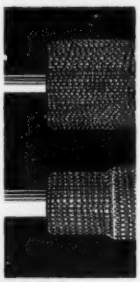

Try these new covers on your back or front card rolls. They last three times longer and are ten times easier to strip than ordinary paper or cloth covers. Card hands love them . . . and they are economical too!

Convince yourself. Send one old scavenger roll to be covered. It will be covered and returned to you at no charge so you can see that we have something. You be the judge.

This is not a slip-on cover . . . can be had only by sending in old rolls for covering or orders for new ones to your specifications. We prepay charges one way on old rolls. Also made to your order: Knit Dye Tubing any size . . . and sheepskin or cloth clearers. Give us a trial.

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For 25 Years

THE TEXTILE LABORATORIES
P. O. BOX 1003 GASTONIA, NORTH CAROLINA

Personal NOTES ABOUT MEN YOU KNOW

West Boylston Manufacturing Co., Montgomery, Ala., has been made superintendent of the last named plant, succeeding James E. Farrell, retired. **Donald M. Monroe** has become personnel manager at West Boylston.

Cason J. Callaway, Jr., has resigned his position as assistant to the vice-president and general manager of the MMC Division of Callaway Mills Co., and is now vice-president and treasurer of Medley Manufacturing Co., Columbus, Ga., in which he has purchased an interest.

Walter S. Huff has been named manager of the Greer Plant of Victor Monaghan Co., after 27 years at Dunean Mills, another division of J. P. Stevens & Co., Inc. His appointment enables **C. F. Stansell,** former manager, to manage the Monaghan plant exclusively.

John E. Bell has joined the executive staff of Stonecutter Mills Corp., as assistant to the president. He was formerly with Carter Fabrics Corp., and J. P. Stevens & Co. **S. C. Veney,** formerly with Duplan Corp., is now superintendent of grey goods manufacturing. **James L. Eskridge,** previously with Burlington Mills Corp., has joined the firm to serve in the overall management of the company.

Honorary membership in Phi Psi, national textile fraternity, has been conferred upon **David Clark,** Clark Publishing Co.; **E. H. Lehmann,** vice-president, West Point (Ga.) Manufacturing Co.; and **Macon P. Miller,** director of public and industrial relations, Fieldcrest Mills, Spray, N. C.

The Textile Color Card Association has announced the election of **Wilfred J. Fullerton,** Dan River Mills, Inc., and **Henry A. Hafner,** Hafner Associates, as new directors, replacing E. Irving Hanson and Carl E. Kempf. All other directors were re-elected. Officers of the association are: **Roy E. Tilles, Sr.,** president; **Armand Schwab,** 1st vice-president; **John F. Warner,** 2nd vice-president; **Henry C. Van Brederode,** treasurer, and **Margaret Hayden Rorke,** secretary and managing director.

Walter D. Leach, Jr., formerly company coordinator, has been appointed production planning manager of The William Carter Co.

Robert J. Stack has been made president of National Automotive Fibres, Inc., succeeding **J. R. Millar,** now chairman of the board of directors.

Alexander F. Ix, president of Frank Ix & Sons, Inc., is the new president of the National Federation of Textiles, Inc. Vice-presidents elected were **John Fox,** Fox-Wells & Co.; **Andrew J. Sokol,** J. P. Stevens & Co., Inc.; and **Jacques Weber,** Bloomsburg Mills, Inc.

H. Gordon Smith, vice-president and general manager of the textile division of U. S. Rubber Co., has been elected to the board of directors.

R. Arthur Spaugh, Jr., has been made president of Washington Mills, Winston-Salem, N. C., succeeding Agnew H. Bahnson, Sr., who has retired. **Charles H. Reid,** secretary, is now vice-president as well. **E. F. Tullock,** newly appointed vice-president, will continue his former duties as treasurer. **Walser A. Blackwood,** who has been assistant general manager of the Mayodan plant, is now production manager for the firm.

Frederick S. Haslam, superintendent at the Bell Co., Worcester, Mass., since 1939, is now vice-president and general superintendent.

Obituaries

Fred G. Barnes, vice-president of Bibb Manufacturing Co., died suddenly on July 2.

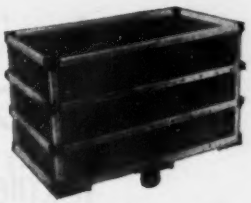
Oscar S. Tyson, founder and chairman of the board of O. S. Tyson and Co., Inc., died on June 18.

Funeral services were held on May 26 for **Ernest Rees,** president of Elk Cotton Mills, Fayetteville, Tenn., who died following an operation.

Head of the stock department at the former Lawrence Print Works until his retirement a few years ago, **Havila B. Taylor** died recently in his home in Lawrence, Mass.

Funeral services were held July 3 for **John J. Hosey, Jr.,** vice-president and treasurer, Energetic Worsted Corp., Bridgeport, Pa., who was

EXCEL



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Compare its specifications with those of any other fibre truck.

- .090 vulcanized fibre, securely riveted to hardwood rails with **solid** steel rivets. These solid rivets are placed at short intervals to prevent buckling.
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Textile Industries leads all other textile publications in total mill circulation in the United States and Canada.

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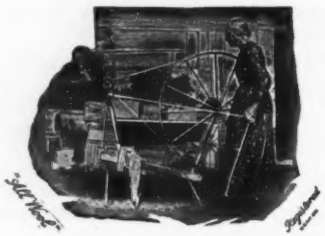

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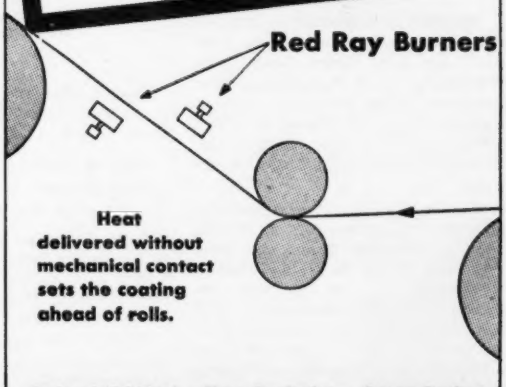

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Red Ray Manufacturing Co., Inc.
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killed when the plane he was piloting crashed.

Edward K. Nelson, 52, an official of the Nelson Knitting Mills, Duluth, Minn., died recently after a brief illness.

Allan Barrows, 60, treasurer of Gosnold Mills Corp., died in New Bedford, Mass., after a long illness. Funeral services were held on July 23.

Funeral services were held on July 21 for **Fabius J. Haywood**, 74, director of Cannon Mills Co., who died of a heart attack.

Horace N. Stevens, formerly of J. P. Stevens & Co., Inc., died recently in Hyannis, Mass., after a brief illness.

Personal NOTES ABOUT MEN YOU KNOW

Supervisor Responsibilities Planning Your Work

(*Continued from page* 135)

overseer should not impose upon the superintendent's or manager's time.

Before going to the office to consult with his superior, the supervisor should first have something important to discuss with him. He should call and arrange an appointment; this enables the official to set the time for the conference at his convenience, while at the same time preventing the supervisor having to wait. The supervisor should organize his thoughts before the interview, making notes if the subject has a number of angles or if several subjects are to be discussed. As soon as the official indicates, by a show of impatience or certain little mannerisms (which the overseer will soon learn to detect) that he is ready to conclude the conference, the overseer should politely bring the conversation to a close and walk out.

Do Not Put Off Disagreeable Jobs. Is there some rather unpleasant task that should be done? Maybe a certain machine needs a major overhauling. Possibly certain periodical cleaning is being postponed until a more opportune time. Perhaps certain records need to be brought up-to-date. Maybe your desk needs cleaning and straightening. Maybe the section men's work benches and supply cabinets are in a mess. It just does not pay to put these things off. Tackle these problems as they come up and before they get so big that you are in a hopeless tangle.

By delegating as much responsibility and detail work to his assistants and by proper scheduling his own personal time, almost any overseer can put himself in that class known as *good overseers.*

(To be continued)

"THERE IS HARDLY ANYTHING IN THE WORLD THAT SOME MAN CANNOT MAKE A LITTLE WORSE AND SELL A LITTLE CHEAPER, AND THE PEOPLE WHO CONSIDER PRICE ONLY ARE THIS MAN'S LAWFUL PREY." (John Ruskin)

There has never been a truer statement

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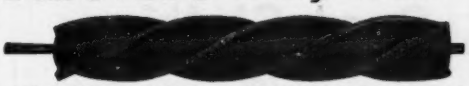
Robert M. Leach, Pawtucket, R. I.

PEGGED *and* GLUED!
BRISTLES *Stay Put*



LONGER LIFE—Spiral card brushes, refilled the Gastonia way, last from 10 to 15 years, compared with 3 or 3 years when staples are used—for STAPLES WILL NOT STAY PUT IN SOFT WOOD. Gastonia first dips the bristles and fiber in glue, then they are permanently pegged in.

BETTER FINISH—To prevent lint from collecting on rolls, Gastonia paints them with high-grade bobbin enamel, which dries to a hard, glossy finish.

Brushes can be refilled and returned in two days. Freight is paid one way.

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What the TEXTILE MILLS are doing

To consolidate office and manufacturing facilities for greater efficiency, **Powell Knitting Co.** has moved its headquarters from Philadelphia to Spartanburg, S. C., where a branch mill was established in 1926. The only knitting process now remaining in Philadelphia is one requiring highly skilled operatives, who would have to be trained if the process were transferred.

Superba Mills, Inc., Hawkinsville, Ga., has been acquired by **Opelika (Ala.) Manufacturing Corp.,** and will be used to expand toweling production, according to T. H. Floyd, general manager at Opelika. Mr. Floyd will be manager of both mills.

The North Carolina Department of Labor recently honored **Lillian Knitting Mills Co.,** Albemarle, N. C., for an outstanding job of accident prevention during 1950.

A pilot plant for the firm's process to produce fluorescent-dyed cotton yarn is being established in the new addition to the **Aberfoyle Manufacturing Co.** plant, Bridgeton, N. J.

Fairview Mills, Fountain Inn, S. C., a branch of Julius Kayser & Co., have been sold to Continental Assurance Co. for $1,150,000. The plant is expected to reach full capacity production within the next few months.

The old Premier Worsted Co. mill and 20 acres of property at Raleigh, N. C., have been purchased by the **American Woolen Company.** Plans for its operation are now being prepared, and it is expected that the unit will be in production by the end of this year.

Prior to the start of their annual vacation period, employees of **Carolinian Mills,** High Shoals, N. C., were entertained by the management at a barbecue, which was attended by approximately 1200 people, including employees, families, and friends.

Callaway Mills Co., LaGrange, Ga., has been granted certificates of necessity for tax amortization purposes by the Defense Production Administration, for a $23,996 expansion of cotton duck output.

The new plant of **Dyco Mills, Inc.,** Norwood, N. J., was formally opened recently with an inspection tour and buffet supper for more than 100 guests from the trade. Phillip Wyck, president, was host to the group.

The plant and property of **Worth Bros., Inc.,** Los Angeles, Cal., have been purchased by **Burlington Mills Corp.** The plant will be modernized for dyeing and finishing hosiery and rayon fabrics, according to Robert L Huffines, Jr., president of Burlington.

A retirement plan for employees has been set up by **Mandeville Mills, Inc.,** Carrollton, Ga., which will also provide death benefits.

Henry Schanzer & Sons, which was founded in 1897, is being liquidated.

Over 500
NORCROSS Viscometers
now installed in Textile Mills

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Specialists in Recording and Recording Controlling Viscometers

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WATER • WASTE DISPOSAL • APPRAISALS • PLANS • REPORTS

Redman Brand
Card Clothing
for
Smoother - Better Carding
REDMAN CARD CLOTHING CO.
ANDOVER, MASS.

according to Ben Schanzer, president, who stated that the move had nothing to do with business conditions in the industry, but was for personal reasons.

The **Island Woolen Mills,** Baraboo, Wis., were recently sold for approximately a million dollars to Joseph H. and Michale B. Makler,

A new rayon weaving plant will be constructed near Pelzer, S. C., by the **Textron Corp.,** and will contain 26,000 sq ft.

A new worsted spinning plant, to be operated by the **Woonsocket (R. I.) Worsted Co.,** will be constructed at Laurens, S. C.

Oscar Heineman Corp., Chicago, Ill., plans erection of a throwing plant at Salisbury, N. C., for processing of nylon and other synthetic yarns. The plant will have 20,000 sq ft of floor space, and will be a windowless, air-conditioned, one-story building.

Recently chartered **Peerless Textiles, Inc.,** will operate a mill at Cleveland, Tenn., for production of rayon fabrics. John L. Hutcheson, Jr., and R. H. Anderson are principal incorporators.

Construction of a one-story addition to the Ranlo Mill, Gastonia, N. C., has been announced by **Burlington Mills Corp.** It will be used for production of spun rayon yarns.

Plans have been approved for extensions in the water and sewage systems at the mill of **Franklin Process Spinning Mill, Inc.,** Fingerville, S. C.

Roosevelt Mills, Inc., Manchester, Conn., has purchased **Fuld & Hatch Knitting Co.,** Cohoes, N. Y., and the two firms have been merged.

A three-story building at Rockledge, Pa., has been acquired by **Infanta Knitting Mills,** Philadelphia, Pa., and present plant will be moved to new location.

Contract has been let by **Spencer Worsted Co., Inc.,** Pawtucket, R. I., for a one-story addition to the plant, to be used for office service.

Work has begun on a one-story addition to **Columbia (S. C.) Mills.**

Textron, Inc., Providence, R. I., plans to occupy under long term lease a one-story mill to be erected by city of Elizabethton, Tenn. The building will be used as a branch mill, for production of tricot knit nylon fabrics.

Arrangements have been completed by **Kilburn Mills,** New Bedford, Mass., for construction of a two million dollar plant near Tryon, N. C. James Knowles will be superintendent of the new mill.

Approximately 150 company-owned houses are being sold to the employees by **Frank Ix & Sons,** Charlottesville, Va.

The Philadelphia chapter of the Home Fashions League recently honored **James Lees and Sons Co., E. I. duPont de Nemours & Co., Inc.,** and the **Moss Rose Manufacturing Co.,** for their pioneering efforts in the use of man-made fibers in the home furnishings field.

All outstanding stock in the **Hamilton (R. I.) Webb Co.,** has been purchased by a group headed by Philip E. Kahn, Nathan Sheinman,

ALL STEEL ECONOMY BALING PRESSES
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What the TEXTILE MILLS are doing

and Martin Nelson. The firm is now in full production and a large expansion program is planned to meet increasing demands of the Armed Forces. It is expected that another cotton spinning plant will be purchased in the near future.

Thomas Rider, formerly with Goodall-Sanford, Inc., is manager and principal owner of the newly organized **Manor Textile Co.**, 244 Oak St., Providence, R. I. Pile fabrics will be woven.

Engineered Webbing Co., upholstery webbing and other narrow fabrics, has moved to 25 Esten Ave., Pawtucket, R. I.

Weldon Mills, Pawtucket, R. I., synthetic fabric weavers, will move to Emporia, Va., according to a recent announcement.

The former **Meredith (N. H.) Linen Mills** property has been purchased by **Keasbey & Mattison Co.**, Ambler, Pa., asbestos fabric weavers.

The Graniteville, Mass., plant of **Abbott Worsted Co.** has been closed and employees transferred to the Forge Village and Lowell, Mass., plants. The latter was formerly occupied in part by Bachmann Uxbridge Worsted Corp., which has vacated the property.

Morris Brody and Ralph Black are owners of the newly organized **Ralmar Fabrics**, Brooklyn, N. Y., a new knitting mill manufacturing cuffs, turtle necks, and ribbed trimmings.

Jerome P. Donnelly, formerly with Forrest Piece Dye Works, is in charge of **Shewnee Finishing Co.**, East Stroudsburg, Pa., recently organized to dye and finish shirtings and other men's wear fabrics.

An employee publication, known as "The Boll" has been established at **Union-Buffalo Mills**, Union, S. C., a division of United Merchants & Manufacturers. The mill paper, the first issue of which was distributed June 20, will be published every two months.

Beaunit Mills, Inc., is planning construction of a new mill at Coosa Pines, Ala., for North American Rayon Corp., Elizabethton, Tenn., an affiliated interest. The plant will specialize in production of rayon yarn for tire cord service. The Phoenix Division of Beaunit, at Statesville, N. C., plans expansion of its weaving department, with installation of additional looms and accessory equipment. Knitting operations at this plant will be discontinued, machinery being removed to the company mill at Beverly, N. J.

Opelika (Ala.) Textile Mills, Inc., is planning expansion in the carding, spinning, and weaving departments, including construction of a third floor to the present two-story building.

Improvements in equipment are being made at the Oakland, Cal., mill of **National Automotive Fibres, Inc.**, for production of "Burtwist," a cotton cable twist floor covering.

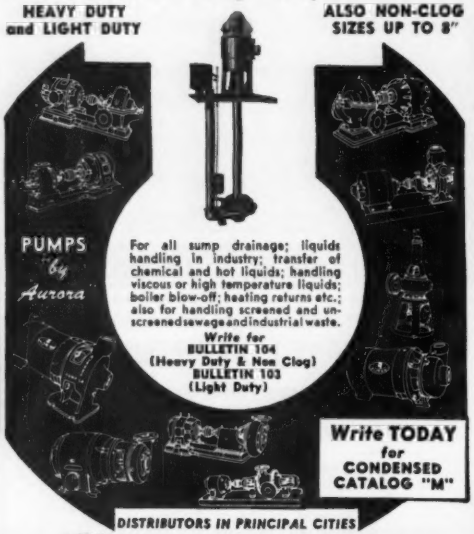
R. E. Whisnant, Charlotte, N. C., is principal incorporator of **W. & C. Hosiery Mill, Inc.**, organized to operate a knitting mill.

Aberfoyle Manufacturing Co., Chester, Pa., has concluded arrange-

Aurora Vertical Sump Pumps are "TOPS"

HEAVY DUTY and LIGHT DUTY

ALSO NON-CLOG SIZES UP TO 8"



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ments for manufacture of its special yarns "Nyfoyle" and "Fiberfoyle" on a royalty basis by **Fine Spinners, Ltd.**, Manchester, England. Aberfoyle will develop for use in the United States an entirely new type of cotton yarn which it will receive from the English firm.

Centreville Lace Corp. was recently chartered for operation of a machine lace works near West Warwick, R. I. Santi J. Paul, Industrial Trust Building, Providence, R. I., is attorney and representative.

Chesnee (S. C.) Mills have completed construction of an addition to the card room; also a new testing laboratory.

Artcraft Hosiery Mills, Darby, Pa., have acquired **Butler Hosiery Mill,** Hartsville, S. C., and will take over at once. Operations will continue as heretofore, and installation of additional equipment is planned.

Textron Southern, Inc., has under construction an addition to its rayon weaving mill at Williamston, S. C.

A site has been selected at Tracy City, Tenn., for construction of a knitting mill. J. W. Blake, Etowah, Tenn., is head of the project.

Cherokee Hosiery Mills, Inc., Centre, Ala., has installed new knitting machines and accessory equipment, resulting in more than doubled capacity.

Frances M. Zito is president and Leon Podrove treasurer of the recently organized **New Haven (Conn.) Knitting Mills, Inc.**

A knitting mill will be operated by **Ram Hosiery Co.,** at Windsor Locks, Conn. Incorporators of the new firm are James S. Courn, Suffield, Conn.; and Richard A. Miner, Windsor Locks.

Stylewise Mills, Inc., Carrollton, Ga., has discontinued manufacture of circular nylon knit fabrics, concentrating on nylon full-fashioned hosiery and nylon tricot cloth. A one-story addition to the plant is being constructed, to be occupied by one of these divisions.

The mill and equipment of **Wel-Wear Hosiery Mill,** Oley, Pa., and machinery and equipment of **Footlite Hosiery Mills, Inc.,** Zeeland, Mich., have been acquired by Robert Berger of Philadelphia, Pa. Arrangements have been completed with the former owners, Ray Hubler and Roy Clements, respectively, for them to merchandise the hosiery under the original brands.

The recently chartered **Concord Wool Co., Inc.,** 49 Melcher St., Boston, Mass., will operate a wool processing mill, including production of cotton waste. James W. Lucas is president.

Plans are under way by Corinth, Miss., city officials for construction of a one-story addition to the local plant of **Sanson Mills, Inc.,** to be occupied under long term lease.

The controlling stock of **Camden (Me.) Textile Corp.** has been purpurchased by William W. Chase, Lincolnville, and Phillip D. Clark, Newton, Mass. Mr. Clark is president of the new firm and Mr. Chase, formerly superintendent of Moosehead Woolen Mills, is treasurer and general manager.

McLeod Narrow Fabrics Corp., Chesterfield, S. C., has been sold to a group headed by Harry Hodges, Jr., Wadesboro, N. C. Mr. Hodges is leaving his duties at Wade Manufacturing Co., to become president and actively manage the new business.

TEXTILE PROCESS ENGINEERS INC.

TPE

Specialists in technical and management control analysis with a 14-point survey which includes such important factors as:

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3. Checking Processes
4. Revising Operating Methods.
5. Setting Loads
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Executive Offices: Atlanta
Carling Dinkler, President
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Vice Pres. and Gen. Mgr.

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BUSINESS—EMPLOYMENT EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

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Post Office Box 4100 Warehouse: Wilkinson Blvd.
CHARLOTTE, N. C. Phone 4-2403 Behind Barbeque Lodge

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Finisher, especially experienced in resin finishes on spun rayons and blends in medium and heavy suitings. Location New England. Reply in confidence with complete personal details and salary requirements to Box No. 448, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

Wanted YARNS { COTTONS • NYLONS / RAYONS • ACETATES

All sizes on cones, skeins or cakes. Small or large lots. Submit your offerings. Our prices are TOPS.

Write for our Rapid Cloth Calculator

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1407 BROADWAY, NEW YORK CITY
Bryant 9-2565-6-7-8-9 — 2570-1-2-3-4

FOR SALE

2 Frames of H & B Drawing, 2 sections per frame, 6 deliveries per section, 12 deliveries per frame complete with Medley change over, Metallic rolls and 12" coiler heads.

6 Sections of Whitin Drawing, 6 deliveries per section, 12" coiler Heads, each section contains middle sampson only, end sampsons are missing.

1 Model X, serial No. 45, Niagara twist setter—Good condition.

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Aragon Mills Division
Aragon, Polk County, Ga.

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Want position as overseer of carding. 36 years old, textile graduate with 14 years experience. Can furnish good reference. Reply to Box No. 461, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Ga.

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COMER MACHINERY COMPANY

Cable Address: COMACH
CYpress 2505

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4—Saco-Lowell F-5 hopper feeders.
4—Saco-Lowell 40" pickers, single process, 2 beaters.
54—Saco-Lowell 40" cards, 27" doffers, 12" coilers, Abington strippers, individually motor driven.
56—H&B 40" cards, 26" doffers, 12" coilers.
4—Dobson & Barlow 40" cards, 24" doffers, 12" coilers.
80—Deliveries Saco-Lowell controlled draft drawing, five rolls, lap back, 12" coilers, 4 deliveries to the frame.
6—Saco-Lowell lap winders, 16 ends, pneumatic rack.
48—Deliveries Saco-Lowell drawing, metallic rolls, 6 delivery frames.
4—H&B 10x5 slubbers, 102 spindles each, regular draft.
8—Saco-Lowell 9x4½ slubbers, 104 sp. each, J-3 long draft.
6—Saco-Lowell 8x4 slubbers, 152 spindles each, J-3 long draft.
2—Saco-Lowell 8x4 slubbers,128 sp. each, Whitin interdraft.
14—Saco-Lowell 9x4½ intermediates, regular draft, 12 frames 104 sp. each, 2 frames 96 spindles each.
46—Fales & Jenks 3¼" gauge spinning frames, 2" ring, tape drive, 252 spindles each, Roth long draft.
23—H&B 3½" gauge spinning frames, 2" ring, 1934 model, tape drive, Roth long draft, 20 frames 252 spindles each, 3 frames 264 sp. each.
28—H&B 3½" gauge spinning frames, 14 frames 204 spindles each, 14 frames 228 spindles each, band drive, regular draft.
6—Whitin 3¾" gauge spinning frames, 240 spindles each, Saco-Lowell long draft, 4 spindle band drive.
5—Whitin 3½" gauge spinning frames, same as above.
5—Abbott cone winders, one Model 61 160 spindles; 2 Model 64 120 spindles, and 160 spindles; 2 Model 62 150 spindles and 210 spindles. All wooden cones.
1—Abbott 24 spindle back winder.
6—High speed warpers, 432 end magazine creels; one Cocker, one Entwistle, four Saco-Lowell.
15—Universal No. 90 Quillers, 20 spindles each, bunch builders.
56—Draper X Model looms, 57½" reed space, 2 harness, motor driven.
72—Draper Modified D looms, 70" reed space, 2 harness, motor driven.
100—Draper Modified D looms, 61½" reed space, belt driven.
250—C&K Cotton King Looms, 48½" between swords, automatic, 4x1, motor driven, 25 harness dobbies.
1—Tenter frame 100"x30'.

FOR SALE

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2—Saco-Lowell Single Process Pickers, auto. feeders
1—Saco-Lowell Vertical Opener
1—Saco-Lowell Automatic feeder, 38"
28—Saco-Pettee 11x5½ Slubbers, 64 sp. 9½" ga., long draft
11—Whitin Spinning Frames, 252 sp. 3¼" ga., long draft
17—Universal No. 50 Cone Winders, L drive, belt gain
3—Collins Twisters, 84 sp. 5½" ga., band drive
3—Collins Twisters, 154 sp. 4⅛" ga., tape drive
2—Fales & Jenks Twisters, 132 sp. 5½" ga. tape drive

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10—Van Vlaanderen Stainless steel tensionless dye jigs, 50" and 70"
1—Boil-Off Range, 60" wide, with 3 Rope Washers
1—Van Vlaanderen Palmer Tenter Unit, 50" cloth w/50' tenter frame
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1—Butterworth Can Dryer, 23 copper cans, 60" wide, vertical, syphon
1—Textile Ager, 18' long x 54" mouthpiece, M.D.

Residual Shrinkage Control Range—Dalglish Pin Tenter Frame, 100' long x 60". Proctor & Schwartz 80' long housing. Proctor & Schwartz Pre-Dryer and Morrison Micro-Set Padder. Age 1947
Morrison Williams Range—60" wide, 2 Williams Boxes, Micro-Set Padder, 3 s.s. wash tanks. Age 1948

PRINT MACHINES, 3-14 COLORS, 44"-64" WIDE.

For further information kindly contact

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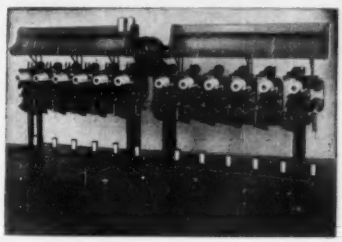
40 Worth Street New York
Telephone COrtlandt 7-1591



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We thoroughly rebuild all types of Yarn Winding Equipment—Universal #5, #6, #10, #50, #60 and #90; Foster Model #12, #30 and #101, Lasenby, Oswald Lever, Sipp Eastwood, Atwood, George Payne.

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Position Wanted

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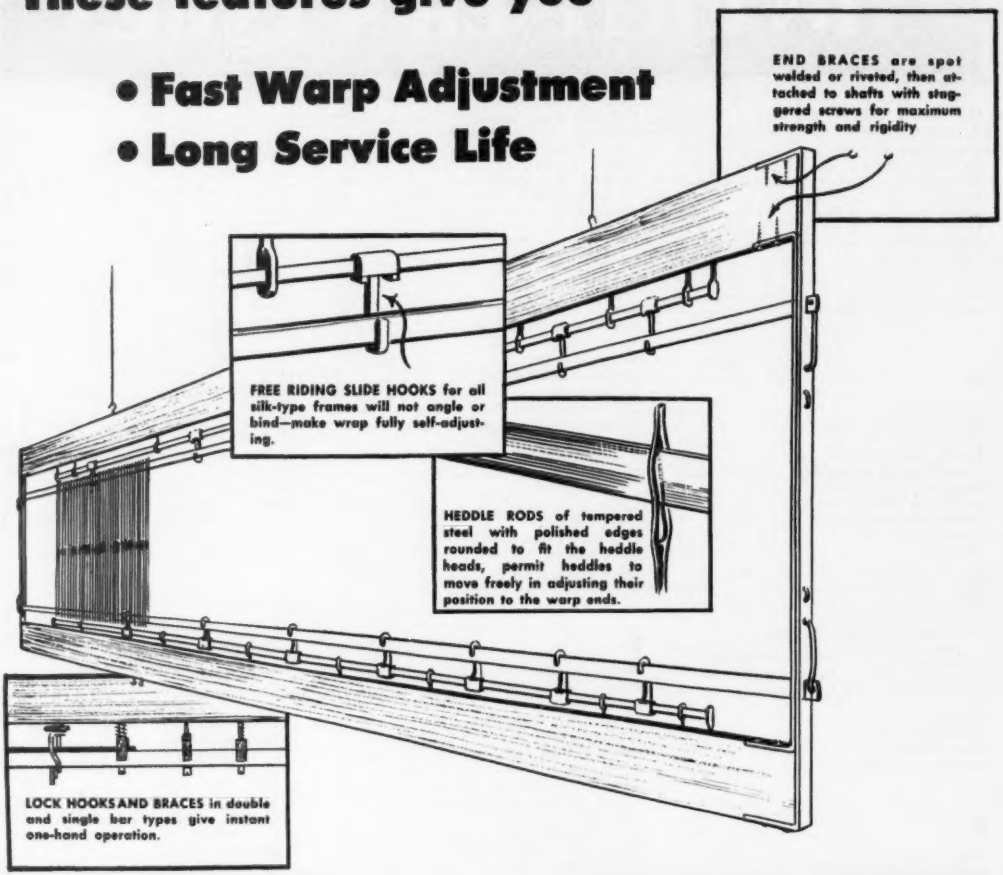
These features give you–

- **Fast Warp Adjustment**
- **Long Service Life**


END BRACES are spot welded or riveted, then attached to shafts with staggered screws for maximum strength and rigidity
FREE RIDING SLIDE HOOKS for all silk-type frames will not angle or bind—make wrap fully self-adjusting.
HEDDLE RODS of tempered steel with polished edges rounded to fit the heddle heads, permit heddles to move freely in adjusting their position to the warp ends.
LOCK HOOKS AND BRACES in double and single bar types give instant one-hand operation.

with WALKER *Superior* HEDDLE FRAMES

WALKER SUPERIOR HEDDLE FRAMES, with patented lock hooks and center braces, give you instant one-hand operation for easy warp adjustment on the loom. Walker manufactures frames and frame accessories for all yarns and weaves, including special section frames for narrow fabrics.

Walker Frames combine light weight, strength and rigidity to bring you extra service life at low cost. Select straight-grained wood for shafts is thoroughly air-dried and moisture sealed. Shafts can be finished (paint or enamel) to customer's specifications at slight extra cost. Steel ends and fittings are cadmium plated to eliminate rust. Quick, easy installation and maintenance is assured by convenient Walker—one hand, instant open—lock hooks.

Write for folder describing the many advantages of Walker Heddle Frames and Free Riding Slide Hooks.

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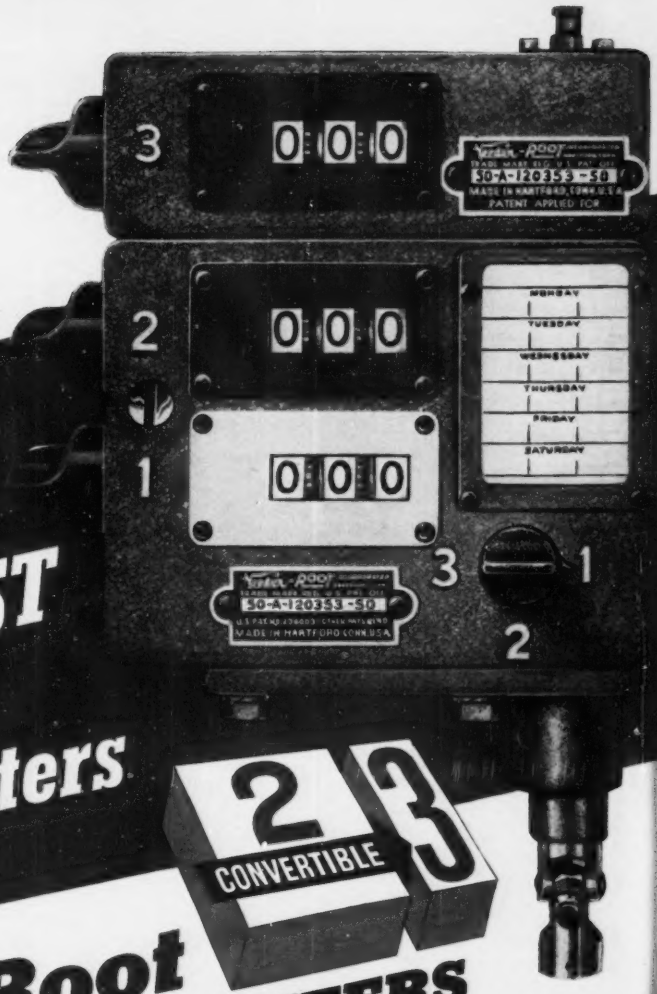


1st and FOREMOST of all Pick Counters

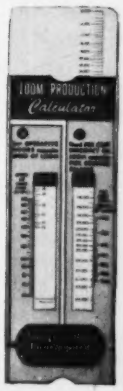
Veeder-Root PICK COUNTERS

SEND FOR THIS LOOM PRODUCTION CALCULATOR

Handy pocket "slip-stick" enables you to make a quick check . . . at any time . . . on whether your looms are running up to par.

In column 1, set the number of operating hours opposite the ppm of the loom. Then in column 2, read the figure for Percent Efficiency of Loom, *opposite the Pick Counter reading.*

In times like these, this easy-to-use Calculator is especially valuable...helps to get the best results both from your looms and from your Veeder-Root 2-3 Convertible Pick Counters. Send for it today.



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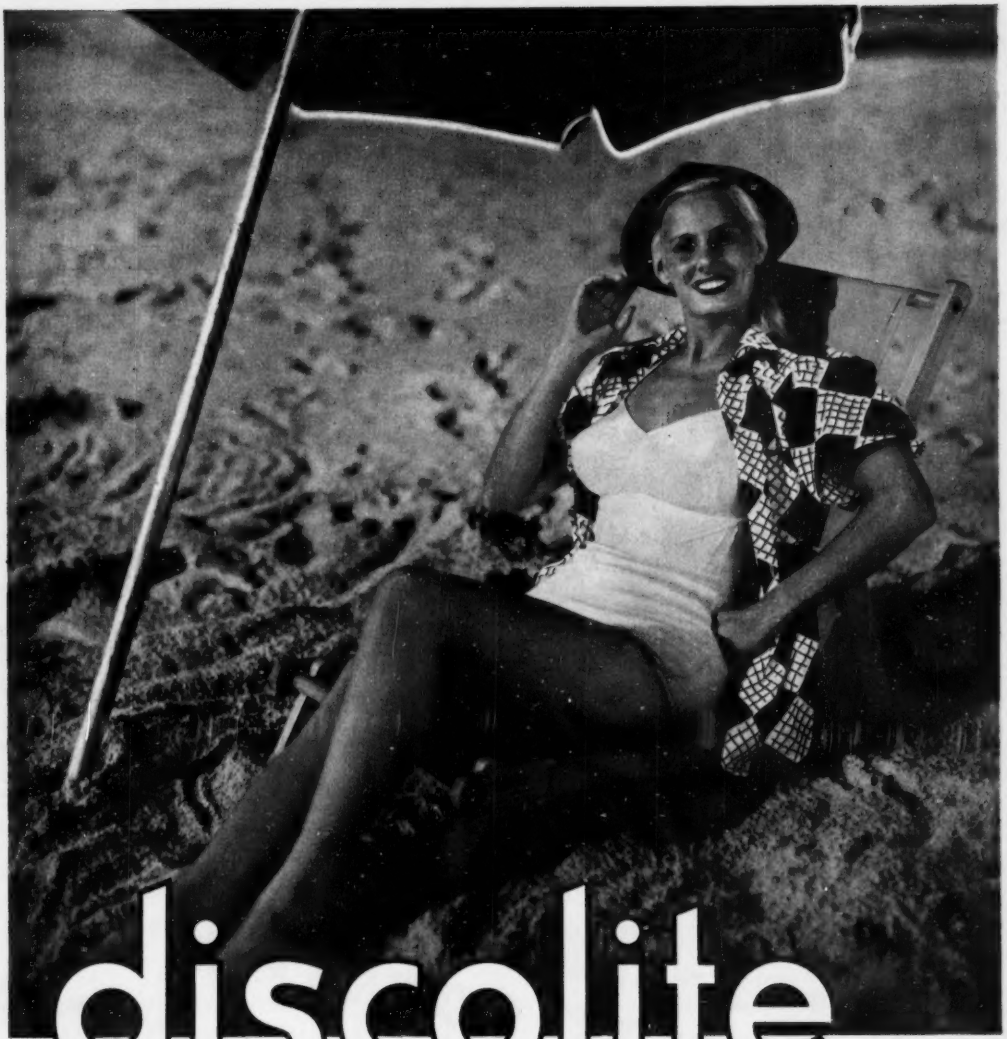

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